Northampton
Community College

2016-2017 COLLEGE CATALOG

http://catalog.northampton.edu

A searchable electronic version of the 2016-2017 College Catalog
is available at http://catalog.northampton.edu

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Northampton Community College Catalog 2016-2017

Accreditations

Northampton Community College is accredited by the Middle States Commission on Higher Education. The association can be contacted at 267.284.5000 or at 3624 Market Street, Philadelphia, PA 19104. The College is also approved and registered by the Pennsylvania Department of Education. The College is authorized to award the associate in arts, associate in science, and associate in applied science degrees.

- **Accounting, Business Administration, Business Management, and Marketing:** The Accounting, Business Administration, Business Management, and Marketing programs are fully accredited by the Accreditation Council for Business Schools and Programs (ACBSP). The Council can be contacted at 913.339.9356 or at 11520 West 119th Street, Overland Park, KS 66213 (www.acbsp.org). For assessment data for the programs click here (PDF).
- **Dental Hygiene:** The program in dental hygiene is accredited by the Commission on Dental Accreditation. The Commission is a specialized accrediting body recognized by the United States Department of Education. The Commission on Dental Accreditation can be contacted at 312.440.4653 or at 211 East Chicago Avenue, Chicago, IL 60611-2678 www.ada.org.
- **Diagnostic Medical Sonography:** The Diagnostic Medical Sonography program is accredited by the Commission on Accreditation of Allied Health Educations Programs (CAAHEP) in collaboration with the Joint Review Committee on Education in Diagnostic Medical Sonography. The JRC-DMS can be contacted at 443.973.3251 or 6021 University Blvd., Suite 500 Ellicott City, MD 21043, www.jrcdms.org.
- **Early Childhood Education:** The Early Childhood Associate Degree, including its online program, is accredited by the National Association for the Education of Young Children (NAEYC). The Association can be contacted at 1313 L St. N.W. Suite 500, Washington DC 20005 202.232.8777 or www.naeyc.org.
- **Funeral Service Education:** The Funeral Service Education program at Northampton Community College is accredited by the American Board of Funeral Service Education (ABFSE), 3414 Ashland Avenue, Suite G, St. Joseph, Missouri 64506 816.233.3747. Web: www.abfse.org.
- **Nursing:** The Practical and Associate Degree Nursing programs are accredited by the Accreditation Commission for Education in Nursing, Inc. (ACEN). ACEN can be contacted at 3343 Peachtree Road NE, Suite 850, Atlanta, GA. 30326, 404.975.5000 or http://www.acenursing.org. The Associate Degree Nursing Program has provisional approval and the Practical Nursing Program has full approval from the Pennsylvania State Board of Nursing.
- **Paralegal:** The Paralegal program has been approved by the American Bar Association. Information on ABA approval can be obtained from the American Bar Association, Standing Committee on Paralegals, 321 N. Clark Street, 19th Floor, Chicago, IL 60654 or at http://www.abaparalegals.org
- **Radiography:** The Radiography program is fully accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT) 20 North Wacker Drive, Suite 2850, Chicago, Illinois 60606-3182, www.jrcert.org. 312.704.5300
- **Solar Photovoltaic:** The Solar Photovoltaic Systems courses are accredited by the Interstate Renewable Energy Council (IREC) Institute for Sustainable Power Quality (ISPQ). IREQ can be contacted at P.O. Box 1156, Latham, NY, 12110-1156, 518.458.6059, www.irecusa.org
- **Veterinary Technology:** The Veterinary Technician program is accredited by the American Veterinary Medical Association (AVMA) and the Committee on Veterinary Technician Education and Activities (CVTEA) since 1999. The AVMA / CVTEA can be contacted at 847.925.8070 or at 1931 North Meacham Road, Suite 100, Schaumburg, IL 60173.

Admissions Policy

The College will admit all applicants who are high school graduates (from a regionally-accredited or state Department of Education recognized school), General Educational Development (GED) recipients, or home schooled students who have completed senior level curriculum.

In addition, adults who are not high school graduates will be admitted if they are 18 years of age or older or if they give evidence of being able to benefit from courses offered by the College. Students not meeting any of the previous criteria may be considered for admission on an individual basis.

Acceptance to the College does not ensure admission into all academic programs. Students who do not meet the College's academic standards or those who do not meet special admissions requirements will not be accepted into selective programs. Satisfying minimum special program requirements for selective admission programs does not guarantee admission into special programs.

Note: State and federal regulations prohibit students who have not earned a high school diploma (from a regionally-accredited or state Department of Education recognized school) or GED from receiving any form of federal or state financial aid.

How to start . . .

Below are the items that must be completed if you intend to earn a degree, certificate or specialized diploma on a full- or part-time basis.

1. Submit a completed application form or apply online at www.northampton.edu and include a $25 non-refundable application fee in the form of a check or money order made payable to NCC; or VISA, MasterCard, American Express or Discover card.
2. Official high school, GED, home school record, and college transcripts (if applicable) are required if you are applying for a selective program and/or if you are applying for financial aid.
3. To receive transfer credits, an official college transcript must be submitted. Credits for which a student received a grade of C or better, and which apply to a student's program, will be accepted as transfer credits. Only credits from institutions that have regional accreditation or are recognized by the American Council on Education (ACE) are acceptable. Starting in Spring 2015, NCC will review transfer credits from non-regionally accredited colleges on a case-by-case basis per student request.
4. Special requirements for certain programs are listed within this catalog, or under "Selective Admissions Programs" on the Admissions page of the NCC Web site.
5. Students who wish to audit a course must submit a completed application form.

New Student College Success Policy

All new students who have never attended college are required to enroll in COLS101-College Success. This course must be taken in the first semester of enrollment. Students who are required to, or have taken, COLS150-Skills for Academic Success, are exempt from taking COLS101. Transfer students are exempt.

Mandatory Orientation (beginning Spring 2015)

New Student Orientation
All students new to college who wish to enroll in degree, certificate, or specialized diploma programs must complete an orientation program prior to registration.

Tuition Deposit

Full-time students, excluding Allied Health students who pay a $200 fee, must pay a $50 admission tuition deposit fee. Part-time students in selected programs will also be charged the fee, which will be applied to tuition and fees.

- If you are entering in the fall semester, the deposit will be payable within 15 days of acceptance and refundable to June 1; deposits paid after June 1 will not be refundable.
- If you apply after June 1, deposits will be payable within 15 days of acceptance or at the time of registration, whichever is earlier, and the deposit will not be refundable.
- If you are entering in the spring semester, the deposit will be payable within 15 days of acceptance and refundable to December 1; deposits paid after December 1 will not be refundable.
- If you apply after December 1, deposits will be payable within 15 days of acceptance or at the time of registration, whichever is earlier, and the deposit will not be refundable.

Concurrent and Dual Enrollment for High School and Home School Students

Dual enrollment students from participating high schools may enroll in College courses as specified by each high school. Enrollment eligibility requirements vary by school district and are available in each high school guidance office and NCC's Admissions Office.

Concurrent enrollment students may enroll in one or two classes at NCC if they are seniors in high school or in the last year of a home school curriculum and have demonstrated the academic ability to benefit from course offerings at the College. All students must have approval of their school districts. Final decision to admit a concurrent enrollment student rests with the College.

Students who are in academic difficulty or have been expelled or dropped out of high school are not eligible for concurrent enrollment. Such students will fall under the regular College admissions policy, which requires students to be 18 years of age and give evidence of being able to benefit from courses offered by the College.

All requests for concurrent and dual enrollment are processed through the NCC Admissions Office.

International Students

Any student who is or intends to be in the United States on a student (F1) visa is considered an international student. Before acceptance to NCC can be granted or the I-20 visa form can be issued, the following must be submitted to the Admissions Office:

1. NCC application with $25 application fee
2. All official transcripts in English from high school and/or college
3. Certification of Finance (obtained from Admissions) along with a bank statement verifying that $23,466 (if room and board is needed by the student) is available for educational purposes.

Preferred deadline to apply for Fall - July 1st, and for Spring - November 15th

For more information or to request an international student packet, contact the Admissions Office. The application is available online at www.northampton.edu.

Special Admission Requirements

More complete information is mailed to all applicants in these programs.

Computer Forensic Analyst: Hero, Special Diploma

Admission to NCC's Computer Forensic Analyst: HERO (Human Exploitation Rescue Operation) program is restricted to individuals who are enrolled in the current Department of Homeland Security/Immigration and Customs Enforcement (DHS/ICE) HERO program cohort.

Dental Hygiene

(preferred deadline Feb. 1 - Fall start only)

Before Admission

- High school Chemistry and Biology with lab, with B or better, overall grade point average of 3.0. (college courses may be substituted for missing high school requirements) For those with more than 12 college credits - college level Chemistry and Biology courses can be a B - or better, minimum 2.7 overall and program science specific grade point average
- Career Assessment Form

After Admission

- Medical form
- CPR certification: BLS for Healthcare Providers
- Health Insurance
- First Aid Certification
- State and Federal Criminal Background Checks
- PA Child & Elder Abuse History
- Felony Disclosure Form

Diagnostic Medical Sonography

(Associate in Applied Science - AAS; preferred deadline February 1 - Fall start only)

Before Admission

- High school Algebra I and II with "Cs" or better, high school Biology with lab with a "B" or better (college courses may be substituted), at least 3.0 GPA, submission of Career Assessment Form, interview by invitation

After Admission

- Medical Form
- Health Insurance
- Drug Screen
- State and Federal Criminal Background Checks
- Child Abuse History Clearance
- CPR Certification for the Health Care Provider
- Written verification that the Essential Functions/Technical Standards can be met (form provided after admission)
- Signed Student Release of Information Form for Allied Health Clinical Sites

Funeral Service Education

Acceptance into the Funeral Service Education program is competitive and you will need to meet certain prerequisites to be considered for admission. These admission criteria include:

Before Admission

- High school graduates and non-traditional student applicants: will need to have completed high school Biology and Chemistry (with labs) with a grade of C or better AND have an overall high school G.P.A. of 2.5 or better.
- Transfer student applicants: Grades of C or better in each course being transferred in; achieved minimum G.P.A. of 2.5 for any college-level work completed.

After Admission

- Complete Student Trainee License Application and pay $25 fee
- Complete TIMMS application and send official transcripts to Department of Education

Funeral Service Education core courses (courses with the prefix FUNS) may only be taken by those students who have completed the 60 hours of general education requirement. See prerequisites for grade requirements.

Massage Therapy

(Certificate program; preferred deadline February 1 for Fall; possible Spring start, depending on demand, with September 15 preferred deadline)

Before Admission

- High school diploma or GED
- At least 18 years of age before beginning program
- High school Biology (or NCC BIOS 107 or 115) with a grade of C or better
- Eligible to enroll in English 101
- Overall high school or college GPA of at least 2.5 (most recent GPA)

After Admission

- Criminal History Record Information (CHRI)
- Child and Elder Abuse History Clearance
- State and FBI Clearance
- Certification in Basic Life Support for Health Care Providers
- Felony Disclosure Form

Medical Assistant

(Diploma Program; preferred deadline February 1 - Fall start only)

Before Admission

- High school diploma or GED, high school biology with a lab with a C or better, high school Algebra I with a C or better (college courses can be substituted for missing high school requirements), placement into college level English

After Admission

- State and Federal Criminal Background Checks
- Physical examination forms
- Immunization history
- Documentation of recent hepatitis B vaccination or relevant titer
- Child and Elder Abuse Clearance forms
- Health Insurance
- Felony Disclosure Form
- Certificate in Basic Life Support for healthcare providers

Nursing

(preferred deadline Feb. 1 for Fall start and Sept. 15 for Spring start)

Before Admission

- RN - completion of high school diploma or equivalent, high school Chemistry and Biology with lab with B or better, two years of Algebra with a C or better (college courses can be substituted for missing high school requirements), placement test into college level English and Math, overall college grade point average of 3.0 or higher, proficient rating on TEAS assessment with Adjusted Individual scores in Reading, Math, Science and English at or above the national mean
- Advanced Placement RN - RN requirements grade point average above 3.0 in college level courses applicable to the program, completed specified RN general education core with C or better, current LPN license, passed the required Excelsior exams, proficient rating on TEAS assessment with Adjusted Individual scores in Reading, Math, Science and English at or above the national mean
- LPN (Fall start only) - completion of high school diploma or equivalent, high school Algebra I and Biology with C or better (college courses can be substituted for missing high school requirements), overall college grade point average of 2.5 or higher

After Admission

- CPR certification
- State and Federal Criminal Background Checks
- Health insurance
- Child Abuse Background Check
- Medical forms and Immunization records
- Felony Disclosure Form
- TEAS assessment (RN only)
- Drug screen
- Student Release of Information Form for Allied Health Clinical Sites
- Hospital Orientation and Paperwork Seminar

Radiography

(preferred deadline Feb. 1 - Fall start only)

Before Admission

- Completion of high school diploma or equivalent
- High school biology with lab with "C" or better (Or BIOS 115 with "C' or better) and two units of Algebra (Or MATH 022 and MATH 026, Or MATH 028) with "C" or better
- Minimum overall GPA of 2.5
- Complete Career Assessment Form (CAF) after virtual shadowing in radiography
- Information session and interview for competitive applicants

After Admission

- Medical forms
- Documentation of relevant immunizations and/or titers
- State and Federal Criminal Background Checks
- Child Abuse Background Check
- Health insurance
- CPR certification for Health Care Provider
- Written verification that the Essential Functions Technical Support Standards can be met
- Signed Student Release of Information Form for Allied Health Clinical Sites
- Drug screen

Sports Medicine and Rehabilitation Sciences

(preferred deadline Feb. 1 - Fall start only)

Before Admission

- Completion of high school diploma or equivalent
- High school Chemistry with lab with "B" or better (or CHEM 135 with "B" or better), high school Biology with lab with "C" or better (or BIOS 115 with "C" or better), one year of high school Algebra with a "C" or better (or MATH 022 with a "C" or better), and eligibility to take English I.

After Admission

- State and Federal Criminal Background Checks
- Medical forms and vaccinations

Veterinary Technician

(preferred deadline Feb. 1 - Fall start only)

Before Admission

- Completion of high school diploma or equivalent
- High school Biology with lab with B or better, Algebra I and II with C or better (college courses can be substituted for missing high school requirements)
- Minimum GPA of 2.5
- Placement into college level English and math
- Interview (qualified applicants will be notified of date)
- Career Exploration Form and completion of 20 hours of observation in a veterinary facility within the past year

After Admission

- Medical form
- Health Insurance

Other Requirements

Before Admission

- Culinary Arts - Placement into English I by testing or transfer course
- Theatre - Audition during first semester

After Admission

- Applied Psychology - State and Federal Criminal Background Checks, Child Abuse History Clearance
- Automotive - Auto dealership sponsorship, valid driver's license, meeting with program director
- Culinary Arts - Medical form and Immunization Records

- Early Childhood Education - Medical form, State and Federal Criminal Background Checks, Child Abuse History Clearance, 2 letters of reference
- Middle Level Education - State and Federal Criminal Background Checks, Child Abuse History Clearance
- Secondary Education - State and Federal Criminal Background Checks, Child Abuse History Clearance
- Secondary Education Math/Science - State and Federal Criminal Background Checks, Child Abuse History Clearance
- Special Education - State and Federal Criminal Background Checks, Child Abuse History Clearance

Residency Policy

Tuition and fees at Northampton Community College are based on a student's permanent place of residence.

Students who have a permanent place of residence and meet all of the requirements as defined in the Northampton County or Monroe County Residency Policies are eligible to receive the applicable residency tuition and fee rate.

Residency is determined by the Admissions Office during the Admissions Application process and communicated to the student in the student's Letter of Acceptance. Changes in a student's residency which occur after a student is accepted to NCC are processed by the Registrar's Office.

Residency

To receive the in-district tuition rate, a student **21 years of age or older** must meet all of the following requirements:

1. Be a U.S. citizen, permanent resident, H visa holder, or refugee.
2. Maintain a legal residence* in one of the eight sponsoring school districts** for at least 90 consecutive days prior to start of the semester for which they are applying.

   *A legal residence is a student's permanent place of residence and one they have moved into for reasons other than attending college. Students living with in-district relatives do not qualify as legal residents.

   **Bangor, Bethlehem, Easton, Nazareth, Northampton, Pen Argyl, Saucon Valley, or Wilson
3. Provide two proofs of residency dated 90 days before a semester begins from the list below:
   - A PA driver's license with current address
   - per capita (school district) tax receipt for the current year
   - valid PA Department of Transportation ID card
   - lease (per capita tax bill or receipt or a utility bill needs to be the 2nd proof)
   - utility bill (is accepted as 2nd form of proof for lease only)
   - deed - home ownership is exempt from the 90 day rule

A student **under the age of 21** retains the residency of his/her parents.
Families moving into a sponsoring school district (see ** above) must submit a Change of Information form and show proof of parents' residence with the required documents listed above to the Admissions Office (for new students) or the Records Office (for returning students).
A student **under 21 not living with parents** may be eligible for in-district rates if he/she proves independence. He/she must submit documentation proving independent status.
The definition of an independent student is one who is:

1. a veteran
2. married
3. an orphan or ward of the court
4. has legal dependents for whom he/she provides at least 50% of the support
5. a full time, permanent, benefits eligible employee who pays local or per capita tax in-district.

If proof of one of the above cannot be given, the student maintains parents' residence.

IMPORTANT NOTES

1. Students must document their residency before the first day of the semester in order to receive in-district rates for that semester. Students who qualify for residency after the beginning of a semester will be granted the appropriate tuition rates for the following semester. The college will not make retroactive changes to residency status.
2. Veterans retain the residency they had at the time they entered the military. They can qualify for in-district tuition as stated above.
3. If a student can not provide any of the documents listed above, please contact Admissions or Records for further guidance.
4. The documents will be reviewed and decided upon by the Residence Committee. Appeals of committee decisions will be reviewed by the Vice President of Student Affairs.
5. The College reserves the right to request additional information when appropriate. Until this residency documentation is received, student tuition will be assessed at the out-of-district or out-of-state rate. Falsification of records will result in immediate and retroactive residence change to out-of-county or out-of-state, and could result in disciplinary action.
6. NCC's decision to approve in-district residency may be challenged by the school district if their records do not reflect proper residency status. Out-of-county (those not residing within the eight sponsoring school districts) and out-of-state students will be charged non-resident fees.

Northampton Sponsoring School Districts

- Bangor Area
- Bethlehem Area
- Easton Area
- Nazareth Area
- Northampton Area
- Pen Argyl Area
- Saucon Valley
- Wilson Area

Residency - Monroe County

To receive the Monroe County tuition rate, a student **21 years of age or older** must meet all of the following requirements:

Be a U.S. citizen, permanent resident, H visa holder, or refugee.

Maintain a legal residence* in Monroe County for at least 90 consecutive days prior to start of the semester for which they are applying.

*A legal residence is a student's permanent place of residence and one they have moved into for reasons other than attending college. Students living with Monroe County relatives (other than parents/legal guardians) do not qualify as legal residents.

Provide **two** proofs of residency dated 90 days before a semester begins from the list below:

- a PA driver's license or valid PA Dept. of Transportation ID card showing current address
- apartment lease in your name
- local real estate tax bill for the current year
- item mailed to your residence - only bank statement; pay stub; bills from utilities, credit card or phone
- deed - home ownership is exempt from the 90 day rule

A student **under the age of 21** retains the residency of their parents.

Families moving into Monroe County must submit a Change of Information form and show proof of parents' residence with the required documents listed above to the Enrollment Office.

A student **under 21 not living with parents** may be eligible for Monroe residency rates if he/she proves independence. He/she must submit documentation proving independent status.

The definition of an independent student is one who is:

1. a veteran
2. married
3. an orphan or ward of the court
4. has legal dependents for whom he/she provides at least 50% of the support
5. a full time, permanent, benefits eligible employee who pays local or per capita tax in Monroe County.

If proof of one of the above cannot be given, the student maintains parents' residence.

IMPORTANT NOTES

1. Students must document their residency before the first day of the semester in order to receive in-district rates for that semester. Students who qualify for residency after the beginning of a semester will be granted the appropriate tuition rates for the following semester. The college will not make retroactive changes to residency status.
2. Veterans retain the residency they had at the time they entered the military. They can qualify for in-district tuition as stated above.
3. If a student can not provide any of the documents listed above, please contact Admissions or Records for further guidance.
4. The documents will be reviewed and decided upon by the Residence Committee. Appeals of committee decisions will be reviewed by the Vice President of Student Affairs.
5. The College reserves the right to request additional information when appropriate. Until this residency documentation is received, student tuition will be assessed at the out-of-district or out-of-state rate. Falsification of records will result in immediate and retroactive residence change to out-of-county or out-of-state, and could result in disciplinary action.
6. NCC's decision to approve in-district residency may be challenged by the school district if their records do not reflect proper residency status. Out-of-county (those not residing within the eight sponsoring school districts) and out-of-state students will be charged non-resident fees.

Veteran and Military Personnel

As required by PA Act 11 of 2015, Veterans and Military Personnel, their spouses and/or dependent children, may be eligible for reduced tuition rates as outlined below.

1. **Veterans, their spouses and/or dependent children**, who reside in the Commonwealth of PA will be granted a tuition rate equivalent to local sponsorship rate. For purposes of this policy, a veteran student is defined as an individual who: (a) Served in the United States Armed Forces, including a reserve component and National Guard and was discharged/released from service under conditions other than dishonorable; or one who is an active duty service member; and (b) Resides in Pennsylvania while enrolled at Northampton Community College.

2. **Active military personnel, their spouses and/or dependent children**, who are enrolled in online (distance) classes, and who reside outside of the Commonwealth, will be granted a tuition rate equivalent to Commonwealth of PA rate.
3. **Any individual who receives VA education benefits under chapters 1606, 1607, 30, 31, and 33**, and who resides outside of the Commonwealth, will be granted a tuition rate equivalent to Commonwealth of PA rate.
4. **Civilian personnel who work at a Department of Defense facility in the Commonwealth of PA, their spouses and/or dependent children**, will be granted a tuition rate equivalent to local sponsorship rate.

Those who qualify for reduced rates, as outlined above, are exempt from the 90 day residency waiting period, but must provide both proof of service and proof of residency prior to the start of the semester for which reduced rates are to be granted.

Proof of service must be documented with a DD214, current military ID, and/or VA Certificate of Eligibility.

Proof of residency, showing the local/PA address, can be documented with any of the following: PA Driver's License/PA Dept. of Transportation ID card, per capita (school district) tax receipt, local EIT or Pennsylvania tax return, lease, utility bill, deed, bank statement, pay stub, credit card bill, or phone bill.

Important note: Students who qualify for residency after the beginning of a semester will be granted the appropriate tuition rates for the following semester. The college will not make retroactive changes to residency status.

Placement Policy

The college uses multiple measures to determine student placement in English and Mathematics classes. Student placement will be determined by:

1. High School GPA and/or specific course grades in English or Mathematics *(completed within 5 years prior to enrolling in first semester at NCC)*
2. Performance on testing including PSSA (11th grade), ACT or SAT *(PSSA scores are only valid for 5 years)*
3. Previous college degrees or courses in English or Mathematics
4. Advanced Placement test scores
5. NCC Mathematics or English Placement test results

If students do not submit evidence from which the college can determine placement, students will be directed to take college placement tests.

Based upon review of transcripts or other evidence, students may be placed into developmental pre-college courses. Students wishing to challenge such decisions may take college placement tests to earn scores for higher-level course placement. Students who place into developmental pre-college courses can retest once before starting those courses. Students may not take the test while enrolled in a developmental, pre-college course.

If students need developmental, pre-college work, they must begin that work in their first semester and continue until the requirements are complete. Developmental pre-college course work does not count towards graduation and may increase the time it takes to complete a degree.

Degree-seeking students must have placement determined before registering for courses.

Students pursuing a Specialized Diploma or Certificate should seek guidance from an advisor regarding placement.

Guest/Visiting/non matriculated students are exempt from placement; however, must still meet individual course prerequisites.

Based on evidence of course work and/or testing, students may be referred to the ESL department for additional testing and placement.

Based on evidence of testing, students may be referred to non-credit options for developing reading and writing skills before entering credit courses.

Requests for accommodated testing must be submitted through the Office of Disability Services.

Placement Guidelines: English, Academic Learning Skills, College Success

English I (ENGL101):

- Must be a graduate from an accredited high school *(within 5 years prior to enrolling in first semester at NCC)* with a GPA of 3.00 or higher (on a 4.0 scale or its equivalent) in a college preparatory curriculum
- Score of 500 or higher on both the SAT Writing and Critical Reading exams (2005 and beyond)
- Combined Reading and Writing 11th grade PSSA score of at least 2650; with neither Reading nor Writing score below 1200. *(PSSA scores are only valid for 5 years)*
- Evidence of a score of 21 or higher on the ACT English Exam
- Completion of required developmental courses
- Competence as determined by the English placement test

Writing Skills Workshop (ENGL 027) Linked to English I (ENGL101):

- Placement into Writing Skills Workshop and English I only as determined by the English placement test or with faculty recommendation after completion of ACLS 050, ACLS 025 and 026.

Introduction to Academic Literacy (ACLS 050):

- Placement as determined by the English placement test
- Must also register for COLS 150 College Seminar: Applied Strategies for Academic Success in the same semester.

Academic Reading and Writing Skills I (ACLS025):

- Placement as determined by the English placement test

Academic Reading and Writing Skills II (ACLS026):

- Successful completion of ACLS 025 with a grade of R
- Must also register for COLS 150 College Seminar: Applied Strategies for Academic Success in the same semester.

English as a Second Language:

- English language competence as determined by ESL department

Placement Guidelines: Mathematics

Foundations of Mathematics I (MATH118), Foundations of Mathematics II (MATH119), The Nature of Mathematics (MATH120), College Algebra (MATH140), Introductory Statistics (MATH150):

- High school transcript review for those who graduated from an accredited high school *(within 5 years prior to enrolling in first semester at NCC)* with a GPA of 3.00 or higher (on a 4.0 scale or its equivalent) in a college preparatory curriculum
- Score of 500 or higher on the SAT mathematics exam
- 11th grade PSSA math score of 1300 or higher *(PSSA scores are only valid for 5 years)*
- Competence as determined by the mathematics placement test
- Completion of required developmental courses with a C or better

Elementary Algebra (MATH 022), Intermediate Algebra (MATH 026), Elementary and Intermediate Algebra Combined (MATH 028):

- Competence as determined by the mathematics placement test
- Completion of required developmental courses with a C or better
- Review of high school mathematics course work

Prealgebra (MATH 020), Applications in Math (MATH103):

- Open enrollment; no placement or pre-requisites needed

Trigonometry (MATH145), Pre-calculus (MATH160), Applied Calculus (MATH165), Calculus I with Review (MATH175), MATH 180 Calculus I (MATH180):

- High school transcript review for those who graduated from an accredited high school *(within 5 years prior to enrolling in first semester at NCC)* with a GPA of 3.00 or higher (on a 4.0 scale or its equivalent)
- Completion of required prerequisite course work as listed in each course description
- Competence as determined by the Mathematics Placement Test

For all other MATH classes, refer to course prerequisites in each course description.

Transferring

Transferring In

Northampton Community College will accept credits when transferring from another institution when the following criteria are met:

1. Credits earned from:
    - U.S. colleges and universities that are regionally accredited. (Coursework from other institutions not regionally accredited will be reviewed on a case by case basis).
    - foreign institutions that are evaluated by a member of a recognized evaluation agency like World Education Services Inc. or Educational Credential Evaluators Inc. and a copy of the evaluation sent directly to NCC. (For more information concerning an evaluation service provider, please contact the NCC Admissions Office).
    - the military provided to the College on the official DD295 form, AARTS, or Joint Services transcript.
2. The course grade is C or better. Courses taken on a pass/fail basis may be accepted only if the official transcript states that a "pass" grade is equivalent to a C or above.
3. The course content is equivalent to a Northampton course.
4. The course is applicable to the student's Northampton program.
5. Official transcripts are mailed or sent electronically to the Admissions Office directly from the student's previous college, university, or other post-secondary educational institution.

A minimum of 25% of credits required for any degree, certificate or specialized diploma must be earned through NCC course work. Remaining credits may be awarded through transfer or as outlined in the Advanced Placement Policy.

Admissions determines transferability of credits for new students and change of majors into the allied health majors; the Registrar determines all other transferability of credits.

Transferred credits are recorded at the top of the NCC transcript as "Transfer Work". Grades do not transfer; transfer credits have no effect on the Northampton Community College grade point average (GPA).

Transfer with a Bachelor's degree

A student possessing a baccalaureate degree from a regionally accredited college or university and enrolling at Northampton in an Associate's degree program shall be considered to have completed the general education core requirements except for required courses identified by the program faculty. Check with Admissions Office for approved list of general education courses transferrable into each program. A student possessing a baccalaureate degree from an institution not regionally accredited will have the credential reviewed on a case by case basis.

Transfer Out to Other Institutions

More than half of the students at Northampton are enrolled in transfer programs. The College will recommend for transfer those students whose personal qualities and academic achievement indicate that they will succeed at other institutions. Although a C average is usually considered minimal for transfer, the specific average required varies with the selective admissions policy established by each individual institution.
The transfer of specific courses normally depends upon appropriateness of completed work to the intended transfer program. Generally, courses completed with a grade of C or better receive transfer credit. The maximum amount of transfer credit varies by college, but normally 60 to 70 credit hours of applicable course work can be transferred. The final decision regarding admission and the acceptability of transfer credit hours rests with the receiving institution.

A course-by-course reference guide is available for your use in the Northampton Advising and Transfer Office. The guide indicates how individual NCC courses transfer to many of the four-year institutions in eastern Pennsylvania. Some course guides are on the advising and transfer services web page. The fact that freshman and sophomore requirements vary considerably among senior colleges suggests that students should discuss their transfer plans with both a faculty advisor and an advising specialist, who will help plan a program as near as possible to the requirements of the intended transfer program.

Unless there is no doubt that the student will transfer to a particular college, it is generally advisable to take courses at the College which are as close as possible to those offered at those colleges which might be considered for transfer.

Articulation Agreements

NCC has over 100 articulation agreements with more than 30 colleges and universities. Articulation agreements are signed by two institutions to make the transfer process easier for students. There are several types of articulation agreements that NCC has with various institutions. Most offer the greatest benefit to students who earn an associate degree then transfer to complete a baccalaureate degree. The most common types of agreements are explained below.

Dual Admissions

Dual Admissions agreements allow students to apply to both NCC and the partner four-year institution. Typically, students are provisionally accepted to the four-year institution provided they meet the admissions criteria outlined in the agreement. Admissions criteria usually require a student to earn an associate degree with a minimum grade point average. Dual admissions agreements are good for students who know before coming to NCC the four-year institution they want to attend.

Core-to Core

Core-to Core agreements guarantee that credit earned by students who complete an A.A. or A.S. degree at NCC will be accepted towards the core requirements at the four-year institution. Core requirements are the general education portion of a baccalaureate degree. General education requirements vary among institutions. Students benefit from core-to-core agreements because all of the credit earned from the associate degree is applied to the four-year program without evaluating individual courses. Typically, there are also admissions criteria for transfer students outlined in the agreement.

Program-to-Program

Program-to-Program agreements are designed to map out the curriculum necessary for students to earn an associate degree at NCC and meet the requirements for a corresponding baccalaureate degree at a four-year institution. The agreements stipulate the exact major courses, general education courses, and electives students should take to make a seamless transfer.

Take your Credits with You

Take your Credits with You Pennsylvania has an innovative statewide transfer system that allows up to 30 foundation credits to be transferred from one participating college or university to another, anywhere in the state. pacollegetransfer.com offers all the information you need to make full use of this transfer system.

List of Institutions with Agreements

- Albright College
- Bloomsburg University of PA
- Cabrini College
- Capella University
- Cedar Crest College
- Centenary College
- Central Pennsylvania College
- Champlain College
- College Misericordia

- DeSales University
- Dickinson College
- Drexel University
- East Stroudburg University of PA
- Eastern Kentucky
- Fairleigh Dickinson University
- Franklin University
- Immaculata University
- Kaplan College
- Keystone College
- King's College
- Kutztown University of PA
- Lafayette College
- Lehigh University
- Marlboro College
- Marywood University
- Misericordia University
- Moore College of Art and Design
- Moravian College
- Nova Southeastern University
- Old Dominion University
- Peirce College
- Pennsylvania College of Technology
- PSU Lehigh Valley
- St. Joseph's College of Maine
- SUNY College of Environmental Science and Forestry
- Temple University
- Thomas Jefferson University
- University of Delaware
- University of Illinois at Springfield
- University of Pittsburgh
- University of the Arts
- Upper Iowa University
- West Virginia University

Bachelor Degree Completions at NCC

Business Administration, East Stroudsburg University

Beginning Fall 2016, East Stroudsburg University will offer a Bachelor of Science (BS) degree in Business Management at the NCC Bethlehem Campus. This accelerated three-year program is geared for NCC's traditional students after completing their associates degree, with a choice of either a Marketing or Management concentration.

Registered Nursing, East Stroudsburg University

Graduates of the NCC registered nursing (RN) program can transfer seamlessly to the East Stroudsburg University RN to BS in Nursing completion program offered on the NCC Bethlehem campus. The program features an evening class schedule of courses delivered in a blended format with rotating in-class and on-line meetings. An ESU advisor is on site during the academic year to provide guidance.

Technical Leadership, Bloomsburg University

Bloomsburg University (BU) offers a Bachelor of Applied Science (BAS) in Technical Leadership on the NCC Bethlehem Campus. Students who earn an Associate in Applied (AAS) degree in a technical program at NCC may stay at NCC to complete additional NCC courses that will count towards general education requirements for the BAS. The remaining BU requirements for the BAS will be offered as a mix of evening on-campus courses at NCC and online courses.

For more information on these opportunities, please contact your advisor.

Academic Passport

Academic Passport is an agreement between Pennsylvania Community Colleges and the State System of Higher Education (SSHE). It allows community college students who earn an A.A. or A.S. degree with a GPA of 2.0 or higher to be accepted to a SSHE university. It also guarantees the acceptance of up to 60 credits to be applied towards a Baccalaureate degree entitling a student to junior status. The first 45 credits will be used as general education requirements with the additional 15 credits applied to major requirements or electives. Although this agreement allows students to be accepted at the 14 SSHE universities it does not guarantee acceptance to selective admission or enrollment capped programs. Other criteria will be used for these programs.

Programs eligible for Academic Passport at NCC are: Biology, Business Administration, Chemistry, Communication Studies, Computer Science, Computer Information Systems, Education, Engineering, Fine Art, General Studies, Individual Transfer Studies, Journalism, Liberal Arts, Math/Physics,

Social Work, Sport Management, and Theatre.

Universities in the PA State System of Higher Education are:

- Bloomsburg University of PA
- California University of PA
- Cheyney University of PA
- Clarion University of PA
- East Stroudsburg University of PA
- Edinboro University of PA
- Indiana University of PA
- Kutztown University of PA
- Lock Haven University of PA
- Mansfield University of PA
- Millersville University of PA
- Shippensburg University of PA
- Slippery Rock University of PA
- West Chester University of PA

Individualized Transfer Studies Program

The Individualized Transfer Studies program at Northampton is designed for students who have a clear intention to transfer to a specific baccalaureate college. The program is unique in that each student works with the four-year institution and designs a curriculum to meet the specific requirements for the major at the baccalaureate institution.

The program consists of a three-part curriculum which includes:

- The current general education core for the associate in arts (A.A.) programs;
- The addition of one Humanities and one Social Science to the general electives;
- The remaining credit hours will align with the requirements at the transfer institution.

The Individualized Transfer Program ensures that students take only those courses at NCC which are required by the four-year institution to which they intend to transfer. This option is intended for students who have identified their baccalaureate institution of choice. The student must meet with an advisor at the four-year institution to pre-plan a program of transferable courses. These Northampton courses will fulfill the general distribution requirements and other courses that are required at the four-year institution. This enables students to get a head start on their baccalaureate degree with an associate's degree from Northampton.

Program Information

All the academic programs within the College are designed to help you meet your goals. Northampton offers programs that will transfer to four-year colleges and universities, as well as those that prepare you to step right into today's competitive work force.

At Northampton, all curricula have a general education component that serves as a solid base for your education. In addition, in each academic program, you will find that the majority of courses give you specific skills and training designed to prepare you to meet your transfer or career objectives.

The College's faculty are specialists who make teaching their first priority. You'll gain knowledge in your chosen subject area from a combination of classroom lectures, group projects, and hands-on laboratory work. You will also benefit from the expertise of members of our advisory committees, composed of successful individuals from the region who advise the College about particular changes in the workplace.

General Education Core Curriculum

The General Education Core Curriculum is an essential component of all degree programs. Courses in the Core fall into two broad categories: Knowledge of Arts, Cultures and the Natural World, and Intellectual and Practical Skills. Students are exposed to a broad range of academic disciplines and fields of study in order to provide a strong foundation of content knowledge and intellectual skills. Certificate programs usually require six credits of general education courses.

Transfer Education

Many of Northampton's courses are designed to transfer to four-year institutions; that is, they contain roughly the same material as similar courses at those institutions. Students who intend to continue their education after Northampton should take as many transferable courses as possible within A.A. or A.S. degree programs. The receiving institution ultimately determines the transferability of courses. It is advisable that students consult early with the Admissions Office of the institution to which they plan to transfer.

Technical Education

Technical education or career education describes a category of courses designed to develop highly skilled graduates prepared for entry-level positions in a particular occupation or group of occupations. Northampton's career education programs, which prepare students for employment immediately upon graduation, usually contain a strong complement of technical education courses. These courses carry credit toward the associate in applied science and associate in general education degrees. They are not designed for transfer.

Developmental Education

Developmental education helps students learn the skills needed for success in college-level courses. These skills include the essentials of reading, writing, and mathematics, and proven strategies for achieving their academic goals.

Developmental education services are provided through these means:

- Placement testing in math, reading, and English determines the eligibility of students for developmental courses.
- Some courses numbered below 100 (0XX) are designed to allow students to remedy specific deficiencies in mathematics, reading, and writing. Among them are PreAlgebra, Elementary Algebra, Intermediate Algebra, Reading Fundamentals, Critical Reading, Basic English, and Chemical Calculations. NOTE: While courses below 100 each carry credit for determining student load and for financial aid, those credits may not be applied to any degree or certificate granted by the College.
- The Learning Center provides tutoring, workshops, and study skills support to promote the academic success of developmental students. Tutoring options include study groups, classroom tutors, Supplemental Instruction, individual appointments, walk-in hours, and online hours.

English as a Second Language

The College supports English language learners by offering courses for college credit through the English as a Second Language (ESL) Department. Students work toward proficiency in reading, writing, and speaking skills. Course work ranges from the beginner level through the advanced level and prepares students to succeed in other college courses or in communities of their choice. Students are supported with tutoring services, a computerized language lab, and academic advising, all with a special attention to the needs of English language learners. Higher levels of ESL can be taken at the same time as other college courses upon the recommendation of an ESL advisor. Students take an ESL placement test to assist with proper placement into classes.

Special Studies and Special Topics Courses

In some semesters the College offers special studies courses, of one to four credits, that are designed to give variety to the present curriculum and reflect current interests. Special studies courses are offered by almost all of the College's academic departments. The specific topic to be covered is announced at the time a special studies course is scheduled, along with any applicable enrollment requirements or prerequisites. Up to 12 credits of special studies courses may be applied to a student's program, insofar as they fit into the program requirements. (A special studies course may be repeated if a different specific topic is offered.) Special studies courses that are later approved as on-going courses in substantially the same form will not be counted toward the 12-credit limit.

Tuition Schedule

Tuition and fees for full-time students registered for 12 to 18 credit hours are charged at a flat rate.

Tuition and fees for part-time students registered for less than 12 credit hours are charged at a per-credit hour rate.

Additional credit hours over 18 are charged at a per-credit hour rate.

Part-Time: Students registered in less than 12 credit hours; additional credit hours over 18

Tuition and Fees	Northampton County PA*	Other PA County	Monroe County PA	Out of State/Country
Tuition	$97	$194	$159	$291
Institutional Fees:				
Comprehensive Fee	$19	$19	$19	$19
Technology Fee	$21	$21	$21	$21
Capital Outlay Fee	$0	$65	$26	$110
TOTAL per Credit	**$137**	**$299**	**$225**	**$441**

Full-Time: Students registered in a minimum of 12 credits hours up to 18 credit hours

Tuition and Fees	Northampton County PA*	Other PA County	Monroe County PA	Out of State/Country
Tuition	$1455	$2910	$2385	$4365
Institutional Fees:				
Comprehensive Fee	$285	$285	$285	$285
Technology Fee	$315	$315	$315	$315
Capital Outlay Fee	$0	$975	$390	$1650
TOTAL Flat Rate	**$2055**	**$4485**	**$3375**	**$6615**

**Northampton County PA includes residents in the following sponsoring school districts only: Bangor, Bethlehem, Easton, Nazareth, Northampton, Pen Argyl, Saucon Valley, and Wilson.*

Online Learning - Early Childhood and Library Technical Assistant

Effective Fall 2016 through Summer II 2017

Online courses that begin with the course code EARL or LIBT are discounted through a tuition discount to $169 per credit hour for Tuition and Fees for students residing outside of the sponsoring school districts. Full-time students are subject to full-time flat tuition and fees according to their residency

rate, less the applicable per credit tuition discount for EARL and LIBT online courses. Additional academic course fees may apply.

Schedule of Fees

1. Application Fee (non-refundable) $25
2. Transcript of Academic Record Fee

Official Transcripts

- Electronic submission (if receiving college subscribes) or three day service if U.S. mail service used - $6
- Same day service - standard U.S. mail service used or picked up by student. 24 hour turnaround - $8
- Overnight delivery - $33

3. College Challenge Examination:
   50 percent of the in-county tuition per credit hour for each credit hour attempted and awarded - 50 percent of this fee will be refunded if examination is not passed.
4. The College may charge each student in a course an academic fee to cover the real cost of materials and services used. The fee must be approved by the President and is published in the course schedule so that students may be aware of the fees to be assessed when they register. In addition to academic course fees and ordinary materials, supplies, and textbooks, certain courses and programs require additional out-of-pocket purchases of special materials, supplies or other items due to their specialized coursework. A list of these estimated out-of-pocket expenses is published on the college tuition and fees webpage.
5. Returned Check Fee - $25
6. Academic Fees

ARCH 265	$64
ARTA 151	$20
ARTA 161	$40
ARTA 162	$30
ARTA 261	$60
ARTA 282	$50
ASEP/AUTC 101/103/104/105/ 121/125/211/221/224/ 225/226	$10
AUTO all courses except 203	$10
CMTH 120/170/180/182/ 240/245/246/251/ 252	$50
CULA 145	$62
CULA 150	$115
DENH 103	$606
DENH 109	$20
DENH 150	$65
DENH 210	$277
DENH 250	$30
DMSG 103	$170
EARL 106/217/244 Online CDA Only	$131
ELEC 101/126/151/207/208/232	$25
ELEC 155	$75
ELEC 177	$50
ELEC 222	$95
ELTC 107/109	$20
ELTC 222/265	$30
EMEC 101/220/225/230	$20
EMEC 105	$25
EMEC 110/118/253	$10
EMEC 135	$30
EMEC 240/245	$80

EMEC 254	$35
EMGS 115/255	$13
ENGG 100/261	$20
ENGG 115	$15
ENGG 205/220/230/262	$40
FUNS 212/222 241/242	$45
FUNS 255	$85
HOSP 223/224	$50
HVAC 101	$70
HVAC 102	$50
HVAC 104	$30
HVAC 110/150	$35
HVAC 124	$40
HVAC 140/142	$20
MASG 101	$50
NURS 205/257	$37
PHED 117/217	$40
RADT 111/210	$15
VETC 101/120/125/ 220/228	$15
VETC 210	$85
VETC 225	$50
WELD 105	$300
WELD 110/125/205/224/230	$150
WELD 123	$200
WELD 135	$50
WELD 235/245/255G	$70

7. Malpractice Liability Insurance Fee

DENH 103	$13
EARL 126/128/208/216/ 218/263G	$13
FUNS 212/222/241/242	$30
MASG 101	$13
MDAS 101	$13
NURS 101	$13
RADT 107/207	$14
VETC 210/230	$70

8. Nursing Assessment Testing Fees

$140 to $425 per session

9. Payment Plan Fees

Enrollment fee	$35
Late payment fee	$25

10. Reinstatement Fee

Total fee $50 per incident

Waiver of Fees

The College's $25 application fee may be waived for those applicants who are unable to pay. Students should contact the Admissions Office regarding the waiver policy.

Senior Citizens Northampton County residents who are 65 years of age or older qualify for a tuition and fee waiver for credit courses (noncredit does not qualify for a waiver). The waiver must be requested by the student at the time of registration. A valid PA Photo ID or PA Driver's License is also required. *Note: Waiver is provided for tuition, comprehensive fee, technology fee and capital fee only. Academic course fees, textbooks and other expenses that may be required for course completion are not included and are the responsibility of the student. Tuition and Fee Waiver plus other forms of financial aid awards and/or third-party payments received on behalf of the student cannot exceed tuition and eligible fee charges and if so, will reduce the Tuition and Fee Waiver accordingly.*

Students in CULA 145 & 150 who are on the dining service meal plan may have their meal plan fee waived.

Course Drop, Withdrawal, Refunds, Class Changes, and Adjustments

Students who wish to drop or withdraw from either a course or the College must receive official authorization from the Records Office. Failure to drop or withdraw officially may result in the recording of an F grade. A student who is asked to leave the College for misconduct or delinquent attendance will receive no refund of tuition or fees.

Students who drop with the approval of the Records office prior to the beginning of a semester and the date specified in the College Calendar, will be entitled to a 100 percent refund (or adjustment) of tuition and fees charged, less the non-refundable admissions deposit and any amounts owed to the College for fines, returned checks and other charges and fees.

In addition, a student who drops during the following specified periods will be entitled to the applicable refund (or adjustment) of tuition and fees, less the admissions deposit, student fees, and any amounts owed to the College per the schedule below. Specified dates for each semester are listed in the College Calendar.

All refund payments will be made payable to the student except for a) contractual third party payments - refund payable to the third party named, and b) excess parents plus loan funds - refund payable to the parent named

Refund Rates

- 75% - First week of class or equivalent for non-standard session
- 50% - Second week of class or equivalent for non-standard session
- 25% - Third week of class or equivalent for non-standard session
  * A standard session is considered as 15 weeks.
- No refund is given after the third week of class

* Full-time tuition and fees are not refundable for students who drop but still remain registered within the 12 - 18 full-time credit hour block

Room and Board

A separate refund schedule applies to housing and meal plan charges. This schedule is published in the Residence Life Handbook and made available to students in the Office of Student Activities and Housing.

Please note that a drop or withdrawal does not absolve a student's financial responsibility for his/her educational expenses. The student is responsible for payment of charges outstanding after the drop or withdrawal is processed and charges are adjusted.

Special Note to Financial Aid Recipients

In accordance with federal and state guidelines, a drop or withdrawal may reduce a student's financial aid award. As a result, the student may owe a balance to the College. Any amounts owed after adjustment of the financial aid award is billed to the student.

In the event of serious injury or illness which is certified by a physician, the student will be granted a full tuition credit, if that documentation is received at the time the student withdraws from the College. Such credit may be applied toward tuition costs only upon his or her return to the College. This credit will be cancelled if it is not used within a one-year period after the student has taken leave from the institution. Tuition credit will not be granted if a student received academic credit from courses in which he or she is enrolled.

Students called to involuntary active military duty may be eligible for a full tuition credit or full tuition refund upon receipt of the appropriate application and supporting documentation as specified at the time of withdrawal. Tuition refunds are subject to financial aid regulations.

Financial Obligation

Payment for tuition and fees is due, in full, by the semester tuition due date published in the academic calendar. Financial aid must be pending on the student account to be deducted from the balance due on the tuition and fees bill. Expected financial aid that is not pending by the tuition due date may not be deducted.

In order to receive a refund or adjustment of charges, a student must complete an official course drop during the stated refund periods. Failure to formally drop your classes during the refund period may cause you to be financially responsible for 100% of all charges. Nonattendance does not relieve you of your financial obligation.

The college reserves the right to cancel a student's registration if payment is not received by the tuition due date, however, this action is not guaranteed and students who are not dropped retain their registration status and remain 100% responsible for payment as charged. Students must complete a course drop by the refund deadline to ensure they are not held responsible for payment of tuition and fees. Students who are cancelled from registration will be charged a non-refundable reinstatement fee of $50.00, payable in full before re-registration can occur. The fee will be imposed each time student is cancelled from classes for non-payment. The fee is non-refundable and financial aid cannot be used to pay for this fee.

Students with outstanding financial obligations to Northampton Community College (NCC) including but not limited to tuition, fees, room and board, library materials, fines, loaned equipment, will have a hold on their account and may not be permitted to register for a subsequent semester, receive official transcripts or grades, or participate in graduation until the hold is cleared.

NCC makes every attempt to contact each student to arrange satisfactory payment of the outstanding amount. If we have exhausted all efforts available to us and the debt is still outstanding, the unpaid account is referred to a private collection agency and reported to the national credit bureau systems.

After an account has been referred to private collection, the student is responsible for payment of all collection costs and attorney fees in addition to the original debt owed to NCC. Payment arrangements for amounts in collection must be made directly with the appropriate collection agency.

Tuition Payment Plan

NCC offers a tuition payment plan option that spreads payment for tuition, fees, room and board throughout the semester. Enrollment in the payment plan is due as follows:

- Fall - July 15
- Spring - December 15
- Summer I - April 15
- Summer II - April 15

* Late enriollment with additional down payment is available.

Re-enrollment must be repeated each semester. Contact the bursar's office for additional information.

Financial Aid

Since its founding, Northampton Community College has been committed to offering excellence in education at a moderate cost. While NCC adheres to the principle that students and their families have the primary responsibility to pay for college costs as their means permit, financial assistance programs represent a bridge between a family's ability to pay and the cost of higher education. Last year, the College awarded over $46 million in financial assistance to approximately 7,400 full and part-time students. The NCC Financial Aid Office administers many types of financial assistance including federal, state, private and institutional financial aid programs to help students meet their educational costs.

Most financial aid awards are made on the basis of financial need. A student's financial need is determined by deducting the student's expected family contribution (EFC) from the cost of education. To qualify for financial aid, you must demonstrate financial need while maintaining academic progress. Financial aid awards must be applied to educational expenses such as tuition, fees, books, room, board, supplies, transportation or other educational costs.

Financial aid awards may consist of grants and/or scholarships (funds which do not have to be repaid), loans (low interest loans which require little or no payment while a student is attending college on at least a half-time basis), employment (money which a student earns through work either on or off-campus) or a combination of these sources.

Foundation Scholarships

To encourage and assist students, NCC also offers scholarships from over 200 different scholarship funds for students who meet the awards' requirements. Funds for scholarship assistance are provided through the efforts of the Northampton Community College Foundation and the generosity of alumni, community leaders, local employers and friends of the College.

The NCC Foundation, established in 1969 as a private, non-profit corporation to support educational programs and activities that cannot be funded through the College's regular income sources, enables NCC to provide more private scholarship support than any other community college in Pennsylvania.

Students must complete the financial aid application process to be considered for scholarship support

How to Apply for Financial Aid

To apply for financial aid at Northampton Community College a student must:

- Complete and submit a Free Application for Federal Student Aid (FAFSA) via the Web at www.fafsa.gov. A student and parent can create an FSA ID to electronically sign the FAFSA.
- NCC's Federal Code for the FAFSA is **007191**

New students should not wait to be admitted to NCC before applying for financial aid. Returning students must annually reapply for financial aid for each academic year a student wants to be considered for financial aid.

The Northampton Community College financial aid priority application deadline is March 31st. Students who complete their financial aid application by the priority deadline will be notified of their eligibility for aid before tuition is due for the following Fall semester. The priority application deadline for the Spring semester is October 1st of the previous year. While financial aid applications are accepted throughout the year, it is important to meet the priority application deadlines if a student expects financial aid to help pay his/her semester tuition and fee charges by the tuition due date.

Eligibility

To receive aid, a student must meet the following eligibility requirements:

1. Be a United States citizen or eligible non-citizen with a valid social security number;
2. Be enrolled in an eligible academic program;
3. A high school graduate or have a recognized General Equivalency Diploma (GED);
4. Be an undergraduate student who has not previously earned a bachelor's degree (for most types of aid);
5. Not be in default on any previous student loan nor owe a repayment on an adjusted federal grant;
6. If male and age 18-25, be registered for Selective Service
7. Comply with Northampton Community College's Academic Progress Policy requirements.

Student Employment

NCC offers on and off-campus jobs to students who have financial need through the Federal Work Study Program. A student's earnings under this program are not credited to the student's account, but are paid to the student every two weeks. Students are responsible for securing their job by interviewing with the job's supervisor. A list of available positions can be found on the Work Study link on the Financial Aid page of the NCC Web site. Students who are interested in community service positions should contact the Work Study Coordinator in the Financial Aid Office.

Veteran's Benefits

We are proud to be a Veterans Administration (VA) approved Institution of Higher Learning (IHL). All associate degree, specialized diploma, and certificate programs listed in the NCC College Catalog are deemed approved by the VA for receipt of education benefits. Our Student Veterans Services Office offers assistance as a resource for VA, military funding for education, EAP, FTA, MYCAA and handles certification of enrollment to the VA for Montgomery GI Bill, Post 9/11 GI Bill, and other VA education benefit programs. It is the student's responsibility to notify the Student Veterans Services of enrollment, changes in enrollment, termination of student status or changes of address and phone number. Failure to do this could delay or jeopardize current or future benefits. A *Military Veterans and Service Members Student Checklist* and *Veteran's Benefits Request Form* (VBRF) are available online at www.northampton.edu/academic-programs/veterans.htm. Questions may be directed to the Student Veterans Services Office at 610.861.5508.

Federal Financial Aid Academic Progress Policy

All students must be making satisfactory academic progress toward a degree, certificate or specialized diploma in order to establish or renew eligibility for participation in any of the Federal or State financial aid programs. The Higher Education Act requires institutions to establish academic progress standards that contain qualitative and quantitative measurements of progress. The act also requires a maximum time frame for completion of the program.

The provisions included in Northampton's academic progress policy are based on federal requirements and are applicable to all students applying for federal aid including the Federal Parent Loan (PLUS). Copies of the policy and the appeal procedure are available at the Financial Aid Office and are distributed to all financial aid recipients with their financial aid award letter.

This policy applies to any student entering or returning to NCC. A student's entire academic record is reviewed even when a student was not a financial aid recipient during prior enrollment. College approved academic restarts are not considered when computing financial aid satisfactory academic progress. The following requirements must be met for eligibility for federal financial aid (grants, loans, and work-study).

Only courses required for your current major are eligible for financial aid consideration.

I. Completion Rate

A student must successfully complete sixty-seven percent (67%) of all credits attempted at NCC.

Financial aid can be applied only once to repeat any course where the student received a passing grade, including a "D". Although students may receive financial aid for repeated courses, credit for a course is given only once.

II. Grade Point Average

A student must maintain a minimum cumulative grade point average based on the total number of credits attempted including transfer credits. Total credits attempted include courses in which a student receives a passing grade or F, W, WP, WF, N, or I.

Total Credits Attempted Including Transfer Credits	Minimum Cumulative GPA Required
9-25	1.50
26-40	1.75
41+	2.00

III. Maximum Time Frame

For federal financial aid eligibility students must complete their program within a maximum time frame not to exceed 150% of the length of the educational program. This includes all semesters of enrollment even if no aid was received. Once a student attempts more than 150% of the credits that it normally takes to complete his/her program of study, he/she is no longer eligible for financial aid.

Example:	**Length of Program**	**Maximum Time Frame**
	60-credit program	90 credits attempted
	30-credit program	45 credits attempted

Questions about this policy should be directed to the Financial Aid Office (610.861.5510).

Appeal Process

Students who do not meet the **Satisfactory Academic Progress** requirements have the right to appeal. All appeals must be in writing and must be submitted within **45 days** of the date of the notice of denial. Appeal forms should be submitted to the Financial Aid Office at Northampton Community College, 3835 Green Pond Road, Bethlehem, PA 18020.

An appeal should include an explanation of the extenuating circumstances which resulted in the student's inability to meet the requirements. Information about the student's plan to make up any deficiencies should also be included.

Note: State grant eligibility is based on standards set by the Pennsylvania Higher Education Assistance Agency (PHEAA). Institutional appeals do not cover State grants. Loss of State grant eligibility may be appealed directly to PHEAA in cases of illness or death in the family.

Evaluation

An evaluation of academic progress will be done after the end of the Spring semester or when students reapply for financial aid. Students who do not meet the requirements will be notified within ten days of the completion of the evaluation.

Note: An evaluation will be done at the halfway point of the program for students enrolled in one-year programs.

Federal Financial Aid Recipients Who Withdraw

The 1998 Reauthorization of the Higher Education Act requires the College to calculate a return of federal student aid funds for students who withdraw (officially or unofficially) from all classes on or before the 60 percent attendance point of the semester. Using the Federal formula, the percentage of the semester attended is used to calculate the amount of the student's earned versus unearned federal student aid funds. The number of calendar days spent attending classes is divided by the number of calendar days in the semester. The unearned portion of federal student aid funds will be returned to the appropriate aid program. Funds are returned in the following order:

- Unsubsidized Direct Loan
- Subsidized Direct Loan
- Perkins Loan
- Parent Loan for Undergraduate Students (PLUS)
- Pell Grant Program
- Supplemental Educational Opportunity Grant (SEOG)

Students receiving financial aid who withdraw from all of their classes may not receive further financial aid disbursements, may lose some or all of the aid that has already been disbursed to their account and are responsible for payment of any balance due after the required return of unearned federal student aid funds. Students who stop attending all classes without officially withdrawing will be subject to the return of federal funds at the end of the semester based on the 50 percent point of the semester.

Notification of Award

Students who have their financial aid applications completed by the priority application deadline will be notified of their eligibility for aid by the tuition due date. They will receive a financial aid award letter. Included with the award letter are instructions, conditions governing awards and disbursement information about how and when students will receive financial aid funds.

Financial Aid Information

Financial aid forms and information are available from the NCC Financial Aid Office in the Student Enrollment Center at the Main Campus, the Enrollment Office at the Monroe Campus, the Fowler Family South Side Center, and on the Financial Aid page of the NCC Web site at www.northampton.edu/admissions/tuition-aid-scholarships/financial-aid.htm. You can call the NCC Financial Aid Office at 610.861.5510.

Policies: College/Academic

Academic Honesty - Policy and Appeal Procedure

Northampton Community College considers honesty to be essential to the learning experience. Academic honesty is one of the values that we expect members of the NCC community will apply in their work on this campus and take into their lives beyond NCC. Violations of academic honesty harm the learning experience and violate the expectations and values that the NCC community embraces. We expect all members of the NCC academic community to conduct themselves and their work ethically and honestly.

Student Responsibilities

- Students are solely responsible for their work and for making sure that their work represents their own honest efforts to meet the goals of the course.
- They are responsible for showing that the work they present is theirs in whatever ways are deemed appropriate by the faculty for the course.

- They are responsible for learning and following the policies and expectations of the college and for understanding the consequences of actions that violate the policy on academic honesty.

Faculty responsibilities

- Faculty members are responsible for demonstrating academic honesty in their work.
- They are responsible for making their expectations related to academic honesty clear to their classes including which activities and resources are allowed and the consequences for violations in their courses.
- They are responsible for communicating violations of the academic honesty policy to students and their division Dean and to the Assistant Dean of Students (Bethlehem) or the Associate Dean of Students (Monroe).

Academic Honesty Violations

Violations of the academic honesty policy include any actions that attempt to gain academic credit for work that does not represent the student's own efforts and knowledge. They include, but are not limited to the following situations and examples:

- **Cheating on examinations and quizzes -**
    - Using notes, materials, and/or mechanical, electronic or technological devices not authorized by the instructor during examinations or quizzes.
    - Providing or receiving help on an examination or test in a manner not authorized by the instructor.
    - Buying, selling, improperly obtaining, or using any tests or examinations.
    - Taking an exam or quiz for another student and/or allowing another student to take an exam or quiz in one's place.
    - Altering or adding answers on exercises, exams, or quizzes after the work has been graded.
- **Plagiarizing –**
    - Using the ideas or words of others without appropriate quotation and documentation that acknowledges the source or sources -- in other words, presenting someone else's work as one's own.
    - Copying, exact words, phrases or sentences without quoting and giving credit to the source.
    - Using a paraphrased version of the opinions, work, or ideas of others without giving credit.
    - The wrongful appropriation of all or part of someone else's literary, artistic, musical, mechanical, or computer-based work.
    - Copying all or part of an assignment, (a research paper, lab report, or workbook) from another person or resource and presenting it as one's own work.
    - Purchasing an assignment and submitting it as one's own work.
    - Falsifying or inventing information, data or research material. Altering or forging records or submitting false records as part of course work or making false statements, excuses, or claims to gain academic credit or influence grading.
    - Listing sources that were never consulted.
    - Gaining unauthorized access to another person's or the College's computer system or tampering with or copying programs, files, data or access codes associated with coursework.
    - Tampering with or damaging the work of others or preventing others from completing their own assignments.
    - Self-plagiarizing: the practice of submitting one's own previously-submitted work as new; or of submitting the same work to different classes that one is enrolled in. Reworking a previously-submitted work, or submitting similar work to different classes may be an option only with the explicit permission of the current professor(s).

Penalties

When a faculty member believes that a student has committed acts that violate the academic honesty policy, he or she will advise the student of the offense and the penalty imposed.

A faculty member may apply one of the following penalties:

1. A written warning with the requirement that the assignment be redone within the instructor's specified time. Faculty members are encouraged to report the incident and action to their division Dean and to the Assistant Dean of Students (Bethlehem) or the Associate Dean of Students (Monroe) using online Academic Honesty Violation Form.
2. A failing grade for the assignment or test.
   Faculty members are encouraged to report the incident and action to their division Dean and to the Assistant Dean of Students (Bethlehem) or the Associate Dean of Students (Monroe) using the online Academic Honesty Violation Form.
3. An "F" grade for the course.
    - If a faculty member issues an "F" grade in the course as a penalty for academic dishonesty, he or she must send a written report of the instance of cheating or plagiarism and the action taken to the division Dean and the Assistant Dean of Students (Bethlehem) or the Associate Dean of Students (Monroe) using the online Academic Honesty Violation Form.
    - If the faculty member has given an "F" grade for the course as a penalty for a violation of academic honesty, a student may not withdraw from the course while the matter is under appeal or if it is resolved that the "F" grade stands.

Appeal procedure-charges of academic dishonesty

If a student wishes to appeal a charge of academic dishonesty or the penalty imposed, the student should follow these steps:

Step 1

- If the student wishes to respond to the accusation, he/she must make an appointment and meet with the faculty member at a formal meeting within ten working days of the notification.
- If the student and faculty member accept a specific resolution offered by either of them, the matter shall be considered closed.
- If such a resolution cannot be reached, the student may formally appeal the action of the faculty member within three working days after the meeting with the faculty member. Appeal of Charges of Academic Honesty Violation Forms and procedures will be available in the Office of the Vice President for Academic Affairs.
- While an appeal is in process, the student may not withdraw from the course.

Note: working day is defined as any day when a full schedule of classes are in session (this excludes Saturdays and Sundays).

Step 2

- Within three working days of the meeting with the faculty member, the student may request in writing that the appropriate dean call a meeting to include the student, faculty member, and program director, if any, within five working days.
- After this meeting, the dean will send all parties involved a written recommendation within three working days.
- Students who do not agree with the recommendation in Step 2 may appeal to the Academic Appeals Committee within three working days. This appeal must be submitted, in writing, to the Vice President for Academic Affairs.

Step 3

- Students initiate appeals to the Academic Appeals Committee (within three days of notification of outcome of Step 2) by requesting a hearing through the Office of the Vice President for Academic Affairs. A hearing will be scheduled as quickly as possible and all parties to the appeal will be informed of the date, time, and place of the meeting. The faculty member will delay recording the grade for the work in question until the appeal is decided.
- The Academic Appeals Committee will decide whether evidence sustains or does not sustain such charges of academic dishonesty and whether the penalty is consistent with the stated policies. A decision will be recommended to the Vice President for Academic Affairs, whose decision is final unless different from the recommendation of the committee. In such cases, the student may appeal to the President whose decision is final.
- If evidence does not sustain such charges in the opinion of the committee and the Vice President for Academic Affairs, all records in the student's file related to this charge will be expunged. If evidence does sustain the charges and the appeal relates to the penalty, the committee may recommend the following actions:

    1. The assigned penalty will be supported.
    2. The faculty member may be asked to reconsider the penalty in question.

- The Vice President for Academic Affairs will communicate in writing a decision to the student, faculty member, and Dean of Students no later than three working days after the hearing.

Recurring violations of Academic Dishonesty

If the student is reported to have violated the Academic Honesty Policy repeatedly, the Assistant Dean of Students (Bethlehem) or the Associate Dean of Students (Monroe) shall request the Discipline Committee to consider the student's dismissal from the college.

Academic Probation Policy

Northampton Community College is committed to the academic success of its students. Students who do not achieve a cumulative grade point average in accordance with the following standards will be placed on academic probation:

Cumulative Attempted Credits	Cumulative GPA
9-25	1.50
26-40	1.75
41+	2.00

Students placed on academic probation are subject to the following conditions:

- Students must meet with an academic probation counselor and develop a plan for improved academic performance.
- Students on probation for a first semester will be limited to maximum enrollment of 13 credits. Additionally, students may have some restrictions placed on them regarding the types of courses they take. The academic probation counselor will recommend action based on the meeting with the student and after review of the academic record. This action may include requiring students to take specific courses.
- Any student who has been placed on academic probation for two consecutive major semesters may be academically suspended for up to one academic year. If a student is academically suspended, he/she may appeal the suspension. A committee comprised of an Advising staff member, the appropriate Academic Dean, one faculty member from each academic division and the Vice President, Enrollment & Student Affairs or his/her designee will review the appeal and make a recommendation to the Vice President for Academic Affairs whose decision is final. Appeals must be made at least 6 weeks prior to the start of a fall semester, or 5 college days prior to the spring semester.
- Students who are academically suspended more than once and who do not make academic progress upon return to NCC will be dismissed from the institution for a minimum of three years.

Academic Recognition

Dean's List

Students who complete a minimum of six credit hours per semester, and who earn a semester grade point average of 3.50 or higher, will be recognized on the Dean's Honor List for academic achievement.

Graduation Honors

Students who complete a minimum of 30 credits hours of coursework in the graduation major at Northampton, and have a graduation grade point average of 3.50 or higher in any degree, certificate or specialized diploma will be graduated with honors. The graduation grade point average includes only those courses used toward the graduation major.

Academic Restart Policy

The Academic Restart policy is intended for students who attended NCC in the past and compiled an unsatisfactory academic record. This one-time-only option allows students to redirect their academic goals and permits students to reset the NCC Grade Point Average and the Cumulative Credits earned.

Eligibility is determined by:

- The student has not enrolled at NCC for at least three (3) consecutive academic years and has not earned an NCC degree.
- The student has a previous cumulative grade point average below 2.0.
- The student has not been granted the Academic Restart previously.
- The student has earned a grade point average of 2.0 or higher in a minimum of 12 credits since returning to NCC.

The previous record will remain on the transcript; however, it will not be used in the computation of the new grade point average. Students may use non-developmental level courses they completed with a grade of C or better prior to Academic Restart toward completion of graduation requirements, but grades for these courses will not affect grade point average calculation.

Interested students must complete an application and meet with a member of the Advising Office. A student's request for academic restart will be voided if 12 credits are not earned after four (4) semesters.

Academic Restart will be recorded on the student's transcript upon certification by the Advising Office.

Note: Given federal and state student aid regulations, the student is not relieved of academic progress requirements for financial aid eligibility, even if restart approval is granted. Some colleges will not accept courses prior to Academic Restart.

Advanced Placement Policy

All students may earn credit through the following options:

1. College Level Examination Program (CLEP) or Excelsior College Examination Program
2. NCC Departmental Challenge Exams
3. Advanced Placement Exams taken through the College Board
4. Military and non-traditional training, as recommended by the American Council on Education (ACE)
5. Portfolio Assessment of Prior Learning
6. Industry-recognized Credential

A student must be enrolled in NCC courses to have such credits applied to the NCC transcript. All external examinations, ACE approved courses, credit for portfolio assessment, and industry-recognized credentials will be equated to NCC courses by appropriate department faculty. Criteria will be reviewed on a periodic basis to insure currency with existing course requirements. Students wishing more information on any of the above, except CLEP and the NCC challenge examination, should contact the Admissions Office. CLEP is administered through the Library and challenge examinations through the Records Office.

Eligibility

All new applicants and currently enrolled students are eligible to apply for credit using any of the above-mentioned options. Any form of advanced placement credit earned is added to the student's transcript upon final verification of enrollment (after the refund period of a student's first semester).

Credit Limits

A minimum of 25% of credits required for any degree, certificate or specialized diploma must be earned through NCC course work. Remaining credits may be awarded through transfer or as outlined in this policy.

Record of Credits

Advanced placement credit earned will be entered on the student's transcript with specific reference to the test or method used for granting credits.

Equating Credits

All methods of advanced placement will be equated to NCC courses or general electives as approved by department faculty. The Admissions and Records Offices will maintain a list of approved equivalencies. Students who have successfully completed any of these advanced placement methods prior to or while attending NCC may request an evaluation of credits earned.

Grades

Only credits will be recorded on the transcript for any advanced placement credit awarded; no grade will be given*. Students who earn credit through this policy and later take the equivalent course at NCC will be given credit and grade earned only for the NCC course. *Exceptions may be approved by the academic dean or designee in the case of developmental math modular units.

Credit may be awarded through:

1) College Level Examination Program (CLEP) or Excelsior College Examinations

Students may take the CLEP examinations at either NCC Library or a national testing center. Excelsior examinations may be taken at any Sylvan Learning Center after test registration has been completed through Excelsior College. Credit for CLEP tests and Excelsior exams will be awarded for scores recommended by the American Council on Education (ACE) for the former and Excelsior College for the latter, unless a Northampton department performs its own research and determines a more appropriate cut-off score.

2) Departmental Challenge Exams

NCC departmental challenge exams are available for certain designated courses. Subject to faculty approval, students may challenge a course only one time and may not challenge a course in which they have been enrolled beyond the first three weeks of the semester, or the equivalent time in a shorter course. Courses must be challenged in sequence. If a course has a prerequisite, that prerequisite must be fulfilled through course work or credit by examination acceptable to the College before a challenge examination may be taken. Internships and courses numbered 0XX will not be available for challenge*. Credit for NCC challenge examinations will be awarded for scores determined by faculty to be at a passing level. For information about the availability of departmental challenge examinations, students should contact the Records Office. *Exceptions may be approved by the academic dean or designee in the case of developmental math modular units.

3) Advanced Placement exams taken through the College Board

The College awards credit to students who successfully completed Advanced Placement (AP) courses and submit official exam scores that meet required score levels. Department faculty will determine courses to be accepted, credit to be awarded, and equivalency of each course to NCC courses. The Admissions Office will maintain a list of Advanced Placement courses, and their required scores, as approved by faculty.

4) Military and Non-Traditional Training

Credit will be awarded based on recommendations by the American Council on Education (ACE), unless a Northampton department performs its own research and determines a more appropriate recommendation.

5) Portfolio Assessment of Prior Learning

Criteria for each course will be developed (if appropriate) by the academic department to establish the proof of knowledge/learning gained by experiences outside the classroom. Credit will be awarded upon faculty evaluation of presented portfolio. The Admissions Office will have a list of portfolio criteria needed for assessment.

6) Industry-recognized Credentials

Department faculty will determine NCC course equivalency for certain industry-recognized credentials. The Admissions Office will maintain a list of the approved credentials.

ADA Policy and Complaint Procedure

Background

Northampton Community College (NCC) welcomes qualified students with disabilities and endorses the principles of nondiscrimination and reasonable accommodation as described in Section 504 of the Rehabilitation Act of 1973 (504), the Americans with Disabilities Act and the Americans with Disabilities Amendments Act of 2009 (ADAA). The College prohibits discrimination against a person on the basis of disability or who has a history or record of such impairment or is regarded as having such impairment as well as persons who are associated with a disabled person. This procedure applies to complaints alleging disability discrimination carried out by students, faculty and staff, and third-party vendors.The College's Section 504 Coordinator handles complaints and appeals of accommodation decisions and allegations of discrimination on account of disability. The Section 504/ADA Coordinator is Brett Last, Executive Director of Human Resources. He may be reached at 610.861.5460 or blast@northampton.edu.

Procedures for Complaints of Discrimination Based Upon a Disability

If a student feels that he/she has been discriminated against based upon a disability by another student, faculty or staff or a third party, a complaint should be filed with the ADA/Section 504 Coordinator who will conduct an investigation of the allegations in the complaint. If the report alleges misconduct by the ADA/Section 504 Coordinator, then the report should be made to the President. Within fifteen (15) days the ADA/Section 504 Coordinator will initiate an impartial, adequate, and reliable investigation. In determining whether the alleged conduct constitutes discrimination, the totality of the circumstances, the nature of the conduct and the context in which the alleged conduct occurred will be investigated. The individual accused of discrimination will be advised of the allegations, the source of the complaint, and then given the opportunity to respond to the allegations. Parties are allowed to present witnesses and other evidence during the investigation Within 60 days from the date that the complaint was received, the ADA/Section 504 Coordinator, or designee, will prepare a written report, unless additional time to complete the investigation is required. The report will include findings with respect to whether discrimination occurred. If an investigation cannot be concluded within 60 days, the appropriate parties will be advised and a projected conclusion day will be announced. Should cause be found to support the allegations, the ADA/Section 504 Coordinator will identify

appropriate remedial actions which may include disciplinary action up to and including termination, and he/she will report those recommendations to the person responsible for the division/department in which the alleged discrimination/harassment occurred. The College will also take steps to prevent the reoccurrence of any discrimination/harassment and to correct its discriminatory effects on the complainant and others if appropriate. Within 15 days from the date that the report is prepared, the ADA/Section 504 Coordinator will provide notice to both parties of the findings, including the findings with respect to wrongdoing, and the outcome resulting from the complaint, including the final remedial actions and the basis for the decision. The notice provided will include the procedure to appeal.

Appeals of Results of Complaints of Discrimination Based Upon a Disability

Both parties may file an appeal if there is a disagreement with the findings and/or remedies of the complaint. An appeal must be made in writing. All appeals must be filed with the President or his/her designee within 10 working days of the receipt of the Coordinator's decision. The appeal must state why the appellant believes the result and conclusion is unsatisfactory. The President or his/her designee shall review the record and investigate further if deemed necessary. Within 30 working days of the date of the filing of the appeal, all parties will receive notice of the President's or his/her designee's decision in writing. The President's or his/her designee's decision will be final and binding on all parties.

Confidentiality

All actions taken to investigate and resolve complaints through this procedure shall be conducted with as much privacy, discretion and confidentiality as possible without compromising the thoroughness and fairness of the investigation. All persons involved are to treat the situation with respect. To conduct a thorough investigation, the investigator(s) may discuss the complaint with witnesses and those persons involved in or affected by the complaint, and those persons necessary to assist in the investigation or to implement appropriate disciplinary actions.

No Retaliation for Filing a Complaint

Retaliation against any individual for making a complaint of disability discrimination, or for assisting in the investigation of such a complaint is a violation of this policy and will not be tolerated. Any acts of retaliation will be subject to appropriate disciplinary action, such as but not limited to reprimand, change in work assignment, loss of privileges, mandatory training or suspension and/or immediate termination.

Appeals

Academic Appeals

Appeals of grades, appeals of penalties for academic dishonesty, and appeals of actions related to the policy on Professional Conduct, will begin informally through discussion between the student and the faculty member involved and will proceed, if continued, through a series of formal steps culminating in a hearing before an Academic Appeals Committee, which will present its findings and recommendations for a decision to the Vice President for Academic Affairs. No final recommendation can be made without a quorum. The decision of the Vice President for Academic Affairs will be final, unless it differs from that of the committee; in such cases, the student may appeal to the President, whose decision is final.

The appeals procedure is a student-motivated one; the responsibility to keep the action in progress rests primarily with the student.

Academic Appeals Committee

The Academic Appeals Committee reviews matters related to appeals of grades, appeals of penalties for academic dishonesty, appeals of actions related to the policy on professional conduct, and waivers of graduation requirements. The Academic Appeals Committee shall be composed of the following: 5 full-time faculty members (at least two shall teach at the Monroe campus) elected to a two year term at large from Academic Affairs, one Student Services faculty member elected by that cluster, and four students (at least 2 shall attend classes at the Monroe campus) appointed for a one year term by the Student Senate and/or Monroe Student Governance.

A quorum shall consist of the following: 7 persons - including 3 faculty members, 2 students, one student services faculty member and a dean (appointed by the President to hear the case). The Registrar may be asked to attend as an ex-officio member.

Appeals Not Covered Under Other Policies

Students may appeal a decision made by an administrator responsible for a department or division to the Vice President for Academic Affairs or Vice President, Enrollment & Student Affairs. The Vice President's decision will be final unless stated otherwise in specific College policy.

Attendance Policy

Class attendance and engagement in the learning process are critical factors in determining students' success in their courses. NCC students are expected to attend all class sessions of courses in which they are enrolled, and are responsible for all material presented in class sessions of these courses.

However, a student who misses class more than twice the number of weekly meetings of the class* (or the equivalent in short term courses) may be withdrawn from the course by the instructor.

Students who are withdrawn for poor attendance will receive a grade of W. Faculty may issue a withdrawal through the first 90% of the semester (14th week or equivalent in short term classes*). After the 90% period, a student may not withdraw or be withdrawn.

In an internet-based online learning course, a student is considered to have missed the equivalent of more than twice the number of weekly meetings of a traditional classroom course in a consecutive two-week period if there has been no participation by the student in the class through submission of assignments, participation in discussion forums or contact with the professor in any way during the period.

Students who are withdrawn from the class for lack of attendance may appeal the enforced withdrawal to the instructor. If the Instructor agrees to reinstate the student, he/she will be required to complete a reinstatement form and return it directly to the Records Office. If the appeal is denied, the student may speak with the appropriate academic dean and/or the Vice President, Enrollment & Student Affairs. Further discussion may take place with the faculty member, but the final decision on the withdrawal rests with the faculty member.

* Clinical and lab courses may have a different application of this attendance policy and it will be so noted on each syllabus.

Audit Policy

A student may apply to audit a course. Auditing students are not required to take examinations and do not receive grades or earn credits for the class.

Enrollment for the purpose of auditing shall be on a space available basis. Priority in class enrollment shall be given to students desiring to take courses for credit; therefore enrollment for audit purposes will only be permitted during the first week of the semester. Auditors must be eligible for admission to the College. A student can only audit a course one time.

Auditors pay standard tuition and fees. The student should identify himself to the instructor as an auditing student and discuss parameters of participating in classroom discussions. If a student wants to change from audit to credit, all prerequisites must be met. The change must be made by the end of the refund period for that course with the consent of the instructor. Instructors may request of the Vice President, Enrollment & Student Affairs that an auditor be officially withdrawn from the course if the auditor is interfering with the learning process.

Class Load

A minimum full-time class load is 12 credit hours. Students registering for 12 or more credit hours in either the fall or spring semester or for 8 or more in any summer session must have approval from an academic advisor. Students will not be allowed to take more than 19 credit hours for either the fall or spring semester or more than 13 credit hours in the summer unless required by their academic program. Exceptions may be granted for students who have a G.P.A of at least 2.75, advisor or Dean recommendation.

Completing an Associate's Degree in Two Years

The number of credit hours that a student must carry in order to complete a program within a two-year period will vary depending upon his or her academic program. Consult the Catalog program description for the variation in credits required by each program. Students who elect to pursue a minimum full-time load (12 credits) each semester cannot graduate in two years unless they complete a significant number of credits during summer sessions. If students must take developmental courses, it will take more than two years to complete a degree. Students are encouraged to review all this information with their academic advisor and to discuss the option that presents the strongest opportunity for academic success.

Classification of Students

Students attending the College will be classified as follows:

- **Freshman:** Successfully completed fewer than 24 credit hours
- **Sophomore:** Successfully completed 24 or more credit hours

Course Credit Policy

Each course that offers academic credit is assigned a credit value based on the number of scheduled student contact hours and the type of teaching modality used to deliver the course. The college defines a semester credit hour as a unit of coursework equivalent to either 1) 50 minutes of lecture instruction and student engagement per week for 15 weeks or 2) a laboratory comprised of 2-3 hours weekly of structured laboratory learning involving the faculty and the student for 15 weeks, or 3) up to 75 hours of internship or fieldwork for 15 weeks. For courses offered on a schedule different from the 15 week schedule, the associated instructional time (typically 2250 minutes for a three credit course) is distributed evenly over the scheduled weeks of the course. The credit value for each course is displayed as a number ratio following the course title and credit assignment. The first digit indicates the weekly lecture hours; the second digit indicates the weekly laboratory hours; the third digit (where appropriate) indicates the number of weekly experiential learning hours (clinical, internship, practicum, etc.) Courses are designed such that students should expect to study a minimum of two hours outside of class for every hour of classroom or direct faculty instruction.

Discrimination, Harassment, and Sexual Misconduct Policy

Policy Statement

Members of the NCC community, guests and visitors have the right to be free from sexual discrimination, harassment and misconduct. All members of the campus community are expected to conduct themselves in a manner that does not infringe upon the rights of others. When an allegation of misconduct is brought to an appropriate administrator's attention, and a respondent is found to have violated this policy, serious sanctions will be used to reasonably ensure that such actions are never repeated. This policy has been developed to reaffirm these principles and to provide recourse for those individuals whose rights have been violated. This policy is intended to define community expectations and to establish a mechanism for determining when those expectations have been violated.

Northampton Community College is committed to providing a learning, working and living environment that promotes personal integrity, civility and mutual respect in a place free of discrimination on the basis of sex; which includes all forms of sexual misconduct. Sex discrimination violates an individual's fundamental rights and personal dignity. Northampton Community College considers sex discrimination in all its forms to be a serious

offense. This policy refers to all forms of sex discrimination, including but not limited to: sexual harassment, sexual assault, sexual misconduct, sexual violence, domestic violence, dating violence and stalking by employees, students, or third parties.

Title IX of the Education Amendments of 1972 prohibits discrimination based on sex in educational programs and activities that receive federal financial assistance. To ensure compliance with Title IX and other federal and state civil rights laws, the College has developed policies and procedures that prohibit sex discrimination in all of its forms.

Northampton Community College does not discriminate on the basis of race, color, age, gender, sexual orientation, sexual identity, religion, national origin, veteran status, disability, genetic information or any other basis of prohibited discrimination in its programs and activities. This policy extends to employment, programs and admission to the College.

This policy applies to all faculty, staff, students, and visitors. It also governs student-on-student sexual discrimination, including sexual assault, both on and off-campus.

Persons who experience discrimination, harassment, or sexual misconduct may respond to the experience in many different ways, including feeling confused, vulnerable, out of control, embarrassed, angry, or depressed. The College provides a variety of resources to assist individuals who have experienced discrimination, harassment, or sexual misconduct to address the effects of the incident and to help them determine whether and how to make a formal complaint about the incident. Additional resource-related information can be found in Section VIII.

All reports of discrimination, harassment, and/or retaliation shall be promptly made to the Title IX Officer (or one of the designated Deputy Coordinators). The Assistant Dean of Students serves as the interim Title IX Officer, while the Executive Director of Human Resources serves as the ADA/504 Coordinator. They oversee implementation of the College's Affirmative Action office and the College's Policy on Discrimination, Harassment, and Sexual Misconduct. The designated Title IX Deputy Coordinators are the Assistant Dean of Students, the Associate Dean of Students at the Monroe Campus the Director of Housing, and the Associate Director of Human Resources. Reporting responsibilities are described in Section III below for those individuals who become aware of incidents involving discrimination, harassment, or sexual misconduct. Additionally, a complainant's options for reporting are addressed more specifically in Section IV below.

I. Prohibited Conduct

1. Discrimination

Northampton Community College adheres to all federal and state civil rights laws banning discrimination in public institutions of higher education. The College prohibits discrimination against any employee, applicant for employment, student or applicant for admission on the basis of any protected class. Protected classes include: age, color, creed, disability, ethnicity, gender identity, genetic information, marital status, national origin, political affiliation, pregnancy, race, religion, sex, sexual orientation, veteran or military status, or any other protected category under applicable federal, state, or local law, including protections for those opposing discrimination or participating in any complaint process on campus or with other human rights agencies.

This policy covers discrimination in employment and in access to educational opportunities. Discrimination is defined as adverse treatment of an individual based on that individual's membership in one or more of the protected groups listed above. Therefore, any member of the campus community, guest, or visitor who acts to deny, deprive, or limit the educational, employment, housing and/or social access, benefits, and/or opportunities of any member of the campus community on the basis of their actual or perceived membership in the protected classes listed above is in violation of the College policy on discrimination. **All College employees shall report all suspected incidents of discrimination or harassment (see Section III. Reporting Responsibilities)**. When brought to the attention of the College, any such discrimination will be appropriately remedied according to the procedures outlined in this policy.

2. Harassment

NCC prohibits harassment against any employee, student, visitor, or guest on the basis of any class protected by College policy or law as identified in Section I.A. above. This policy is not meant to inhibit or prohibit educational content or discussions inside or outside of the classroom that include germane but controversial or sensitive subject matters. The sections below describe the specific forms of prohibited harassment under College policy.

1. Bias-Related Harassment

This policy prohibits any form of harassment on the basis of actual or perceived membership in a protected class, by any member or group of the campus community, which unreasonably interferes with an individual's work or academic environment.

This environment may be created by verbal, written, graphic, threatening and/or physical conduct that is sufficiently severe, persistent, or pervasive so as to interfere with, limit, or deny the ability of an individual to participate in or benefit from educational programs or activities or employment access, benefits, or opportunities. Merely offensive conduct and/or harassment of a generic nature not on the basis of membership in a protected class may not result in a violation of this policy but may be addressed through education and/or other resolution methods.

2. Sexual Harassment

This policy prohibits any form of sexual harassment. Sexual harassment is unwelcome sexual- or gender-based verbal, written, online, and/or physical conduct. Anyone experiencing sexual harassment in any College program is encouraged to report it online (www.northampton.edu/reportit), to NCC's Title IX Officer or a Deputy Coordinator, or by methods identified in the Complaint Resolution Process Section (IV.A. Confidentiality and Reporting of Offenses). Sexual harassment creates a hostile environment and offenders may be disciplined when it is sufficiently severe, pervasive, persistent, or objectively offensive that it:

- has the effect of unreasonably interfering with, denying, or limiting employment opportunities or the ability to participate in or benefit from the College's educational, social, and/or residential program, or
- is based on power differentials (quid pro quo), the creation of a hostile environment, or retaliation.

Some examples of possible sexual harassment include:

- A professor insists that a student have sex with him/her in exchange for a good grade. This is harassment regardless of whether the student complies with the request.
- A student repeatedly sends sexually oriented jokes on an e-mail list the student created, even when asked to stop, causing one recipient to avoid the sender on campus and in the residence hall in which they both live.
- Two supervisors frequently rate several employees' bodies and sex appeal, commenting suggestively about their clothing and appearance.

Consensual Relationships. There are inherent risks in any romantic or sexual relationship between individuals in unequal positions (such as faculty and student, supervisor and employee). These relationships may be less consensual than perceived by the individual whose position confers power. The relationship also may be viewed in different ways by each of the parties, particularly in retrospect. Furthermore, circumstances may change, and conduct that was previously welcome may become unwelcome. Even when both parties have consented at the outset to a romantic or sexual involvement, this past consent may not remove grounds for a later charge of a violation of applicable sections of the faculty/staff handbooks. For the personal protection of members of this community, relationships in which power differentials are inherent (faculty-student, staff-student, administrator-student) are generally discouraged. Consensual romantic or sexual relationships in which one party maintains a direct supervisory or evaluative role over the other party are unethical. Therefore, persons with direct supervisory or evaluative responsibilities who are involved in such relationships must bring those relationships to the timely attention of their supervisor, and will likely result in the necessity to remove the employee from the supervisory or evaluative responsibilities, or shift the student out of being supervised or evaluated by someone with whom they have established a consensual relationship. This includes CAs and mentors and students over whom they have direct responsibility. While no relationships are prohibited by this policy, failure to self-report such relationships to a supervisor as required can result in disciplinary action for an employee.

3. ## Sexual Misconduct

This policy prohibits any form of sexual misconduct. Acts of sexual misconduct may be committed by any person upon any other person, regardless of the sex, gender, sexual orientation, and/or gender identity of those involved. The definition of consent below will be used in the interpretation and application of this policy:

Consent. Consent is knowing, voluntary, and clear permission by word or action to engage in mutually agreed upon sexual activity. Since individuals may experience the same interaction in different ways, it is the responsibility of each party to make certain that the other has consented before engaging in the activity. For consent to be valid, there must be a clear expression in words or actions that the other individual consented to that specific sexual conduct. Consent to a specific sexual contact (such as kissing or fondling) cannot be presumed to be consent for another specific sexual activity (such as intercourse). A current or previous dating relationship is not sufficient to constitute consent. Silence or the absence of resistance alone is not consent. The existence of consent is based on the totality of the circumstances, including the context in which the alleged incident occurred. Individuals can withdraw consent at any time during sexual activity by expressing in words or actions that they no longer want the act to continue, and, if that happens, the other person must stop immediately.

A person cannot consent if he or she is incapacitated. Under this policy, a person is incapacitated if he or she is disabled or deprived of ability to act or reason for one's self, is unable to understand what is happening, or is disoriented, helpless, asleep, or unconscious for any reason, including due to alcohol or other drugs. Incapacitation is defined as a state where someone cannot make rational, reasonable decisions because they lack the capacity to give knowing consent (e.g., to understand the "who, what, when, where, why, or how" of their sexual interaction). This policy also covers a person whose incapacity results from mental disability, involuntary physical restraint, and/or from taking of an incapacitating substance. A person is incapacitated if the person is temporarily incapable of apprising or controlling the person's own conduct due to the influence of a narcotic, anesthetic, or intoxicating substance; if a person is unable to communicate an unwillingness to act because the person is unconscious, asleep, or is otherwise physically limited; or if the person has a bodily impairment or handicap that substantially limits the person's ability to resist or flee.

An individual who engages in sexual activity when the individual knows, or should know, that the other person is physically or mentally incapacitated has violated this policy. It is not an excuse that the respondent to a claim of sexual misconduct was intoxicated and, therefore, did not realize the other person's incapacity.

The following are types of prohibited sexual misconduct under this policy:

1. ## Sexual Harassment (defined above)
2. ## Non-Consensual Sexual Intercourse

   Defined as any sexual penetration or intercourse (anal, oral, or vaginal) however slight with any object by a person upon another person that is without consent and/or by force.

   Sexual penetration includes vaginal or anal penetration by a penis, tongue, finger, or object, or oral copulation by mouth-to-genital contact or genital-to-mouth contact.
3. ## Non-Consensual Sexual Contact

Defined as any intentional sexual touching however slight with any object by a person upon another person that is without consent and/or by force.

Sexual touching includes any bodily contact with the breasts, groin, genitals, mouth, or other bodily orifice of another individual or any other bodily contact in a sexual manner.

4. **Sexual Exploitation**

Defined as taking non-consensual or abusive sexual advantage of another; and the conduct does not fall within the definitions of sexual harassment, non-consensual sexual intercourse, or non-consensual sexual contact. Examples of sexual exploitation include, but are not limited to:

- sexual voyeurism (such as watching a person undressing, using the bathroom, or engaging in sexual acts without the consent of the person observed)
- taking photographs, video recording, or audio recording of another in a sexual act or in any other private activity without the consent of all persons involved in the activity
- exceeding the boundaries of consent (such as allowing another person to hide in a closet and observe sexual activity or disseminating sexual pictures without the photographed person's consent)
- engaging in sexual activity with another person while knowingly infected with human immunodeficiency virus (HIV) or other sexually transmitted disease (STD) without informing the other person of the infection
- administering alcohol or drugs (such as "date rape" drugs) to another person without the person's knowledge or consent

5. **Relationship Violence**

Defined as violence between those in an intimate relationship (this includes romantic, dating, or domestic relationships). Examples include, but are not limited to:

- physical assault between two people in a current or prior intimate relationship who do not live together (Dating Violence)
- physical assault between two people in an intimate relationship who live together (Domestic Violence)

6. **Stalking**

- Defined as a course of conduct directed at a specific person that is unwelcome and would cause a reasonable person to feel fear or suffer substantial emotional distress. Examples include, but are not limited to: sending multiple unwanted text messages, phone calls, or electronic communications
- following, watching, photographing, or otherwise tracking an individual without his or her permission
- sending unwelcome gifts, notes, or other items to another person

3. **Retaliation**

The College seeks to create an environment where its students and employees are free, without fear of reprisal, to use its procedures to determine if there has been a violation of their civil rights. Any act of retaliation will result in appropriate disciplinary action.

Retaliation is defined as any adverse action taken against a person participating in a protected activity because of their participation in that protected activity. Retaliation against an individual for alleging a violation of their civil rights, supporting a complainant, or for assisting in providing information relevant to a claim, is a serious violation of the this policy. Acts of alleged retaliation should be reported immediately to the Title IX Officer or Deputy Coordinators.

4. **Other Offenses**

This policy prohibits other offenses of a discriminatory, harassing, and/or retaliatory nature not included in the previous sections as follows:

- Intimidation, defined under this policy as implied threats or acts that cause a reasonable fear of harm in another on the basis of actual or perceived membership in a protected class
- Hazing, defined under this policy as acts likely to cause physical or psychological harm or social ostracism to any person within the College community when related to the admission, initiation, joining, or any other group-affiliation activity on the basis of actual or perceived membership in a protected class.
- Bullying, defined under this policy as repeated and/or severe aggressive behavior likely to intimidate or intentionally hurt, control or diminish another person, physically or mentally on the basis of actual or perceived membership in a protected class.
- Violation of any other College rule, when it is motivated by sex or gender or the actual or perceived membership of the victim in a protected class, may be pursued using this policy and process.

II. Scope/Jurisdiction/Application

This policy applies to allegations of discrimination, harassment, and retaliation that take place on NCC property or at College-sponsored events, regardless of their location. This policy may also apply to allegations of discrimination, harassment, and retaliation that occur off-campus or to actions online when the Title IX Officer or Deputy Coordinator determines that the off-campus or online conduct could have an on-campus impact or impact on the educational mission of the College. Such impact includes:

- Any action that constitutes a criminal offense as defined by federal, state, or local law;
- Any situation where it appears that the respondent may present a danger or threat to the health or safety of self or others;

- Any situation that significantly impinges upon the rights, property, or achievements of others or significantly breaches the peace and/or causes social disorder; and/or
- Any situation that is detrimental to the educational interests of the College.

III. Reporting Responsibilities

All College employees who are aware of or witness discrimination, harassment, sexual misconduct, or retaliation are required to promptly report to the Title IX Officer or a Title IX Deputy Coordinator. Any student who is aware of or who witnesses discrimination, harassment, sexual misconduct, or retaliation is encouraged to promptly report to the Title IX Officer or a Title IX Deputy Coordinator. All initial contacts will be treated with the maximum possible privacy: specific information on any complaint received by any party will be reported to the Title IX Officer, but, subject to the College's obligation to investigate and redress violations, every reasonable effort will be made to maintain the privacy of those initiating a report of a complaint. In all cases, the College will give consideration to the complainant with respect to how the complaint is pursued but reserves the right, when necessary to protect the community, to investigate and pursue a resolution when an alleged victim chooses not to initiate or participate in a formal complaint.

Please note: This section addresses reporting obligations for members of our campus community who are made aware of potential violations of this policy. Methods for filing a complaint and the Complaint Resolution Process are detailed in Section IV. Additional resource-related information can be found in Section VIII.

1. Title IX Officer and Deputy Coordinators

Brett Last, Executive Director of Human Resources serves as the EEO Officer and ADA Coordinator. Mitchell Murtha, Assistant Dean of Students, serves as the interim Title IX Coordinator for the College. Mr. Last and Mr. Murtha are respectively available to anyone seeking additional information or wishing to file a complaint. Mr. Last may be reached at 610.861.5460 or blast@northampton.edu. Mr. Murtha may be reached at 610.332.6075 or mmurtha@northampton.edu.

In addition, the following people have been designated to handle inquiries regarding these policies:

Title IX Deputy Coordinator
Mitchell E. Murtha, Assistant Dean of Students
College Center 201
MMurtha@northampton.edu
610.332.6075

Title IX Deputy Coordinator
Belinda A. Austin, Associate Dean, Student & College Services
Keystone 131 Monroe
BAustin@northampton.edu
570.369.1872

Title IX Deputy Coordinator
Brian J. Shegina, Associate Director, Human Resources
4th Floor, College Center
BShegina@northampton.edu
610.332.6394

Title IX Deputy Coordinator
Janelle L. Howey, Director, Residence Life
JHowey@northampton.edu
610.332.6171

Title IX Deputy Coordinator
Dr. Gloria Lopez
Dean of Students
College Center 248
JHowey@northampton.edu
610.861.5565

2. Role of the Title IX Officer and Deputy Coordinators

The Title IX Officer and Deputy Coordinators are charged with coordinating the College response to reports of misconduct under this policy. The Title IX Officer and Deputy Coordinators do not serve as advocates for either the complainant or the respondent. The Title IX Officer or Deputy Coordinators will explain to both parties the informal and formal processes outlined below and the provisions for confidentiality. Where appropriate, the Title IX Officer or Deputy Coordinators will provide to both parties information on options for obtaining advocacy, medical and counseling services, and making criminal reports, and will assist with providing information on other resources. The Title IX Officer and Deputy Coordinators will coordinate with other campus officials to take appropriate interim actions such as no contact orders, academic accommodations, and rearrangement of housing and work assignments.

3. Police Reporting

In addition to required campus reporting, reports may also be made to the police and/or campus security, especially if a crime is or may be involved, by calling the following numbers:

- Emergency - 911
- Bethlehem Township Police (non-emergency number)- 610.759.2200
- Pocono Township Police (non-emergency number)- 570.629.7323
- Bethlehem City Police (non-emergency number)- 610.865.7187
- Campus Security
    - Bethlehem Campus (24hrs): 610.861.5588
    - Monroe Campus: 570.369.1911
    - Fowler: 484.390.3240

4. ### Federal Timely Warning Obligations

Victims of sexual misconduct should be aware that College administrators must issue crime alerts for incidents reported to them that represent a serious or continuing threat to students or employees. The College will withhold a victim's name and other identifying information while providing enough information for community members to make safety decisions in light of the potential danger.

IV. Complaint Resolution Process

The College will respond to any alleged violation of this policy received by the Title IX Officer or Deputy Coordinators. This section outlines ways in which offenses can be reported by individuals choosing to pursue complaint options. Additional resource-related information can be found in Section VIII.

1. ### Confidentiality and Reporting of Offenses

Northampton Community College will make every effort to safeguard the identities of individuals who seek help and/or report discrimination, harassment, and/or retaliation. While steps are taken to protect the privacy of victims, College's ability to respond may be limited in the event of a request for confidentiality. The College may need to investigate an incident and take action once an allegation is known, whether or not the reporting individual chooses to pursue a complaint.

When a report is made, personally identifiable information (name of victim, name of respondent, etc.) may be initially withheld in cases where the victim is hesitant to come forward. Subsequently, campus officials may need additional information. The College Title IX Officer or Deputy Coordinator will conduct an initial inquiry, looking for any sign of pattern, predation, violence, or threat. When such exists, institutional action may be required in an effort to ensure campus safety.

No employee should ever promise absolute confidentiality except those as described below in Section IV.A.2. Reports may be private, but not confidential, as described below in Section IV.A.3. Reports to police and/or Title IX officials do not obligate the complainant to file any criminal or College conduct charges.

The College will not pursue disciplinary action for improper use of alcohol or other drugs against an alleged victim of sexual misconduct or against another student who shares information as either a witness to or as a reporter of sexual misconduct as long as the report is made in good faith. See "Good Samaritan Provision," Appendix 4

Deliberately false and/or malicious accusations of discrimination, harassment, or retaliation, as opposed to complaints which, even if erroneous, are made in good faith, are just as serious an offense as discrimination, harassment, or retaliation and will be subject to appropriate disciplinary action.

Complaints and reports should be made as soon as possible after an incident.

If the incident is an assault:

Report the incident:

- Local Police - Emergency - 911
- Bethlehem Township Police (non-emergency number)- 610.759.2200
- Pocono Township Police (non-emergency number)- 570.629.7323
- Bethlehem City Police (non-emergency number)- 610.865.7187
- Campus Security
    - Bethlehem Campus (24hrs): 610.861.5588
    - Monroe Campus: 570.369.1911
    - Fowler: 484.390.3240

Seek immediate **medical attention**. Do not change clothing, shower, bathe, brush teeth or douche. Delay the above and going to the bathroom (if possible) until you are examined as this preserves evidence of the assault. Medical attention should be accessed at a local hospital.

- Easton Hospital: 610.250.4000
- Muhlenberg Hospital/LVH: 610.861.2200
- St. Luke's Hospital: 610.954.4000
- Pocono Medical Center: 570.476.3351

Seek **emotional support**. It is important that you talk about this issue and that you tell someone you trust.

On-campus you may contact:

- Counseling staff 610.861.5342

- Health and Wellness Center staff - 610.861.5365
- Residence Life staff - 610.861.5324 or 610.861.4115

Off-campus you may contact:

- Crime Victims Council/Sexual Assault 24-hour hotline (Bethlehem)– 610.437.6611
- Women's Resources Hotline (Monroe)– 570.421.4200
- North Penn Legal Services - 610.317.5317

Options for filing a report include:

1. ## Anonymous and Third Party Reporting

   The Title IX Officer and Deputy Coordinators accept anonymous and third-party reports of conduct alleged to violate this policy and will follow up on such reports. The individual making the report is encouraged to provide as much detailed information as possible to allow the Title IX Officer or Deputy Coordinators to investigate and respond as appropriate. The College may be limited in its ability to investigate an anonymous or third party report unless sufficient information is provided. (See www.northampton.edu/reportit)

2. ## Confidential Reporting

   If a reporting party would like the details of an incident to be kept confidential, the reporting party may speak with counselors, health service providers, victim services advocates, domestic violence resources, local or state assistance agencies, or members of the clergy who are permitted by law to maintain confidentiality (except in extreme cases of immediacy of threat or danger or abuse of a minor). These sources may submit anonymous statistical information for timely warning and Clery Act purposes. If a reporting party is unsure of a resource's ability to maintain confidentiality, the reporting party is advised to ask them before talking to them.

   NCC counselors for students and/or the **Employee Assistance Program** for employees are available to help free of charge and can be seen on an emergency basis.

3. ## Private Reporting

   Reports to College employees who are not confidential resources listed above in **Section IV.A.2.** should be treated with the maximum possible privacy. If a reporting party is unsure of a resource's ability to maintain privacy, the reporting party is advised to ask them before talking to them. The resource will be able to explain the resource's reporting obligations and help a reporting party make decisions about who is in the best position to help. If personally identifiable information is shared, it will be shared with as few people as possible under the circumstances and efforts will be made to protect privacy to the greatest extent reasonably possible.

4. ## Formal Reporting

   Complainants are encouraged to speak to College officials, such as the Title IX Officer or Deputy Coordinators or NCC Security, to make formal reports. Complainants have the right, and can expect, to have complaints taken seriously by the College when formally reported and to have those incidents investigated and properly resolved through these procedures. Formal reporting still affords privacy to the reporter and only a small group of officials who need to know will be told. Information will be shared as necessary with investigator(s), witnesses, the respondent, and a hearing board if deemed appropriate. The number of people with this knowledge will be kept as few as reasonably possible to preserve a complainant's rights and privacy.

5. ## Criminal Reporting

   If someone is in immediate danger or is a victim of a crime, call 9-1-1. Some acts of discrimination and harassment may also be crimes, such as sexual assault or stalking. Allegations of criminal conduct should be reported to law enforcement even when it is not clear whether the conduct rises to the level of a crime. Regardless, law enforcement can assist with obtaining medical care, getting immediate law enforcement response and protection, connecting with victim advocate services and counseling support, initiating a criminal investigation as appropriate and answering questions about the criminal process.

2. ## Informal Resolution Process

Informal resolution is an alternative to the formal complaint resolution process. The Title IX Officer will determine if informal resolution is appropriate, based on the willingness of the parties and the nature of the alleged conduct. Sanctions are generally not pursued as the result of an informal resolution process, though the parties may agree to appropriate remedies. The Title IX Officer will keep records of any resolution that is reached. The College reserves the right to cancel informal resolution if sufficient evidence suggests a formal investigation or other sanctions or remedies may be necessary and appropriate.

It is not necessary to pursue informal resolution first in order to make a formal complaint, and anyone participating in informal resolution can stop that process at any time and request to continue through the formal process.

Except in cases involving criminal activity and/or sexual assault, an employee or student alleging discrimination, harassment and/or retaliation against an employee under this policy is encouraged to consider an informal resolution. If it is appropriate, an attempt to facilitate an informal resolution of the matter will be made. In the event that an informal resolution is not reached, is not appropriate, or is not pursued, the student or employee who is alleging the discrimination, harassment, or retaliation may initiate a formal investigation.

3. ## Formal Resolution Process

1. ## Filing a Complaint

Any individual who believes that this policy has been violated should contact the Title IX Officer or any Title IX Deputy Coordinator.

1. ## Complaint Intake

   Following receipt of notice or a complaint, the Title IX Officer or Deputy Coordinator will normally, within five college days, make an initial determination as to whether the information has merit to reasonably indicate there may have been a violation of College policy. If it appears a violation may have occurred, an investigation will begin. If the complaint does not appear to allege a policy violation or if conflict resolution is desired by the complainant and appears appropriate given the nature of the alleged behavior, then the complaint does not proceed to investigation. An investigation will be pursued if there is sufficient information to suggest a policy violation, a pattern of misconduct, and/or a perceived threat of further harm to the community or any of its members may exist.

2. ## Interim Action

   The College will implement interim and/or protective actions upon notice of alleged discrimination, harassment, and/or retaliation and will take additional prompt remedial and/or disciplinary action with respect to any member of the community, guest, or visitor who has violated this policy.

   Interim actions include but are not limited to: no contact orders, no trespass notices, providing counseling and/or medical services, academic support, living arrangement adjustments, providing a campus escort, academic or work schedule and assignment accommodations, safety planning, and referral to campus and community resources.

   The College may suspend, on an interim basis, a student or student organization or place an employee on administrative leave pending the completion of the investigation and procedures. In cases in which an interim suspension or administrative leave is imposed, the student, employee, or student organization will be given the opportunity to meet with an appropriate administrator prior to such action being imposed, or as soon thereafter as reasonably possible, to show cause why the action should not be implemented. Violation of interim provisions will be grounds for disciplinary action.

   During an interim suspension or administrative leave, a student or employee may be denied access to College housing and/or the College campus, facilities, or events, either entirely or with specific application. As determined by the appropriate administrative officer, this restriction includes classes and/or all other College activities or privileges for which the individual might otherwise be eligible. At the discretion of the appropriate administrative officer, alternative coursework options may be pursued to ensure as minimal an impact as possible on the respondent student. At the discretion of the appropriate administrative officer, alternative employment/work options may be pursued to ensure as minimal an impact as possible on the respondent employee.

2. ## Notice of Charges

Once an investigator has been assigned, written notice of the allegations will be provided to the parties involved. If the respondent is an employee, the written notice will be copied to the employee's department head/director, dean, vice president, and president.

3. ## Investigation

If a complainant wishes to pursue a formal complaint or if the College determines an investigation is necessary, the Title IX Officer will assign an investigator, usually within five college days of determining that a complaint should proceed. Investigations will be thorough and impartial and will entail interviews with relevant parties and witnesses, and obtaining available evidence. Conflict of interest (real or perceived) by the investigator will not be allowed. The College aims to complete investigations within 60 days, which can be extended as necessary for appropriate cause by the Title IX Officer with notice to the parties. Investigation may take longer when initial complaints fail to provide direct first-hand information. The College may undertake a short delay (usually 3-10 days, to allow evidence collection) when criminal charges are being investigated. Complainants will be informed, at regular intervals, of the status of the investigation. College action will continue regardless of the status of civil or criminal charges involving the same incident. A complainant may proceed with both a criminal charge and a request for a College resolution simultaneously.

1. ## Student Withdrawal While Charges Pending

   Should a responding student decide to withdraw from the College and/or not participate in the investigation and/or hearing, the process will nonetheless proceed in the student's absence to a reasonable resolution and that student will not be permitted to return to the College unless any and all sanctions have been satisfied. The Title IX Officer will continue to act to promptly and effectively remedy the effects of the conduct upon the victim and the community.

2. ## Employee Resignation While Charges Pending

   Should a responding employee resign while charges are pending, the records of the Title IX Officer will reflect that status, as will College responses to any future inquiries regarding employment references for that individual. Should an employee decide to leave and not participate in the investigation and/or hearing, the process will nonetheless proceed in the employee's absence to a reasonable resolution and that employee will not be permitted to return to the College unless any and all sanctions have been satisfied. The Title IX Officer will continue to act to promptly and effectively remedy the effects of the conduct upon the victim and the community.

4. ## Investigation Findings

1. ## For Students

Upon receipt of the investigative report, the Title IX Officer will forward it to the Vice President for Enrollment and Student Services or designee for an appropriate hearing per the Student Code of Conduct procedures. During a hearing:

- Both the complainant and the respondent will receive equivalent notice of the process.
- The complainant will have the opportunity to be present throughout the entire Hearing.
- The complainant will be entitled to the same opportunity to have others present during a Hearing as is provided to the respondent, including residence hall staff and/or a College Support Person;
- Both the complainant and the respondent will have the opportunity to present witnesses with information pertinent to the alleged sexual harassment, sexual misconduct or sexual assault, and any relevant information to the Hearing panel during the conduct process;
- The complainant will be provided options for reasonable alternative arrangements if he or she does not want to be present in the same room as the respondent during the Hearing;
- Testimony regarding any party's past sexual conduct will ordinarily not be permitted, except in those instances where there was a prior sexual relationship between the parties and the testimony may be relevant to the issue of consent. If the respondent is found responsible for the conduct alleged in the complaint, his or her past sexual misconduct, if any, may be considered in determining the appropriate outcome.
- The College will document the proceedings.

Following the hearing, the decision of whether a policy violation has occurred will be determined by using a preponderance of the evidence standard. A finding of a policy violation by a preponderance of the evidence means that it is more likely than not that the policy violation occurred. If, following the hearing, the decision is that no policy violation has occurred the process will end. Regardless of the outcome, the complainant, the respondent, and the Title IX Officer will be notified of the finding in writing.

If, following a hearing, the student is found to have violated College policy, appropriate disciplinary sanctions will be determined after consultation with the Title IX Officer. The Vice President for Enrollment and Student Affairs (or designee) will notify the respondent, the complainant, and the Title IX Officer in writing of the Vice President's decision. This written decision must be issued within fifteen college days of the date of receipt of the investigative report from the Title IX Officer.

2. For Employees

Investigations will be thorough and impartial and will entail interviews with relevant parties and witnesses, and obtaining available evidence. Both the complainant and the respondent will have the opportunity to present witnesses with information pertinent to the alleged sexual harassment, sexual misconduct or sexual assault, and any relevant information. The investigator will document the proceedings.

Upon receipt of the investigative report, the Title IX Officer will determine if this policy has been violated by using a preponderance of the evidence standard. A finding of a policy violation by a preponderance of the evidence means that it is more likely than not that the policy violation occurred. If the Title IX Officer decides that no policy violation has occurred, then the process will end. Regardless of the outcome, the complainant and the respondent will be notified of the finding in writing. The respondent's department head/director, Dean, Vice President, and the President will also be notified of the finding.

In the event that the employee violated College policy, the Vice President of the respondent will determine appropriate disciplinary sanctions based on the recommendation from the Title IX Officer. Regardless of the outcome, the complainant, the respondent, and the Title IX Officer will be notified in writing of the outcome within twenty college days of the date of the notice from the Title IX Officer. If the Vice President serves as a party or witness in the investigation, the Title IX Officer's recommendation will be sent to the President for determination of disciplinary sanctions.

5. Sanctions

Sanctions will be recommended by the Title IX Officer and forwarded to the decision-making authority as noted above in **Section IV.C.4**. Factors considered when determining a sanction may include:

- The nature of, severity of, and circumstances surrounding the violation
- The respondent's disciplinary history
- Previously founded complaints or allegations against the respondent involving similar conduct
- Any other information deemed relevant by the Title IX Officer
- The need to bring an end to the discrimination, harassment, and/or retaliation
- The need to prevent the future recurrence of discrimination, harassment, and/or retaliation
- The need to remedy the effects of the discrimination, harassment, and/or retaliation on the victim and the community

1. Student Sanctions

For examples of the range of potential disciplinary sanctions against students, see the section of the Student Handbook entitled Disciplinary Actions.

2. Employee Sanctions

Sanctions for an employee who has violated this policy may include, but are not limited to, verbal or written warning, required counseling, training, demotion, reassignment, suspension, and termination.

6. Appeals

Appeals of the decision of the Vice President for Enrollment and Student Affairs (for students) or the Vice President/President (for employees) may be filed by the complainant, the respondent or both. All requests for appeal considerations must be submitted in writing to the Title IX Officer within five college days of the date of the final written notice.

Appeals are limited to allegations of the following:

- A procedural error or omission occurred that significantly impacted the outcome.
- There is new evidence, unknown or unavailable during the investigation, that could substantially impact the finding or sanction. A summary of this new evidence and its potential impact upon the investigation must be included in the appeal.
- The sanctions imposed are substantially disproportionate to the severity of the violation.

The original finding and sanction/responsive actions will stand if the appeal is not timely or is not based on the grounds listed above, and such a finding and sanction/responsive action(s) are final. When a party requests an appeal, the other party (parties) will be notified and given an opportunity to respond.

For students: In cases involving student conduct, a person designated by the Vice President for Enrollment and Student Affairs will review the appeal request(s).

For employees: In cases involving employee conduct, a person designated by the President will review the appeal request(s).

Where the designee finds that at least one of the grounds is met, and proceeds with the appeal, additional principles governing the hearing of appeals include the following:

- The original decision will only be changed when there is a compelling justification to do so.
- Appeals are not intended to be full re-hearings of the complaint. Appeals are confined to a review of the written documentation or record of the original hearing and pertinent documentation regarding the grounds for appeal.
- Sanctions will not be imposed pending the outcome of the appeal. Interim and/or protective actions may be imposed and/or continued as appropriate.
- The designee will render a decision within ten college days to the Title IX Officer who will normally provide written notice of the appeal to all parties within three college days from the date of the appeal review.
- All parties will be informed of whether the grounds for an appeal are accepted and the results of the appeal decision.
- Once an appeal is decided, the outcome is final: further appeals are not permitted under this policy.

7. ### Failure to Complete Sanctions

All respondents are expected to comply with conduct sanctions within the time frame specified in their written notice. Failure to follow through on conduct sanctions by the date specified, whether by refusal, neglect, or any other reason, may result in additional sanctions and/or suspension, expulsion, and/or termination from the College. For students, failure to comply may result in transcript notation and/or a hold to prevent future registration.

V. Remedial Actions

In addition to the interim actions outlined in **Section IV.C.1.b**, the Title IX Officer (or designee) may provide remedial actions intended to address the short or long-term effects of harassment, discrimination, and/or retaliation. That is, remedial actions may be taken at the conclusion of the process in addition to any actions that may have been taken on an interim basis, in order to redress harm to the complainant and the community and to prevent further harassment or violations. Remedial actions may also be used when, in the judgment of the Title IX Officer (or designee), the safety or well-being of any member(s) of the campus community may be jeopardized by the presence on campus of the respondent or the ongoing activity of a student organization whose behavior is in question.

These remedies may include referral to counseling and health services or to the Employee Assistance Program, altering the housing situation of a respondent student, (or the alleged complainant, if desired), altering work arrangements, providing campus escorts, implementing contact limitations between the parties, or offering adjustments to academic deadlines and/or course schedules.

VI. Statement of Rights for Complainants and Respondents

Both complainants and respondents will be afforded the following rights under this policy:

- To be treated with respect by College officials
- To take advantage of campus support resources (such as Counseling Services and College Health Services for students, or EAP services for employees)
- To experience a safe educational and work environment
- To have an advisor (students) or representative (employees) during this process
- To refuse to have an allegation resolved through informal procedures
- To be free from retaliation
- To have complaints heard in substantial accordance with these procedures
- To reasonable and necessary participation in the process

VII. Records

In implementing this policy, records of all complaints, resolutions, and hearings will be kept by the Title IX Officer indefinitely.

Appendix

Good Samaritan

The welfare of students in our community is of paramount importance. At times, students on and off-campus may need assistance. The College encourages students to offer help and assistance to others in need. Sometimes, students are hesitant to offer assistance to others, for fear that they may get themselves in trouble (for example, as student who has been drinking underage might hesitate to help take a victim of sexual misconduct to the Campus security). The College pursues a policy of limited immunity for students who offer help to others in need. While policy violations cannot be overlooked, the College will provide educational options, rather than punishment, to those who offer their assistance to others in need.

Risk Reduction Tips

Risk reduction tips can often take a victim-blaming tone, even unintentionally. With no intention to victim-blame, and with recognition that only those who commit sexual violence are responsible for those actions, these suggestions may nevertheless help you to reduce your risk experiencing a non-consensual sexual act. Below, suggestions to avoid committing a non-consensual sexual act are also offered:

- Know your sexual intentions and limits. You have the right to say "NO" to any unwanted sexual contact. If you are uncertain of what you want, ask your partner to respect your feelings.
- Communicate your limits firmly and directly. If you say "No," say it like you mean it. Avoid giving mixed messages. Back up your words with a firm voice and clear body language. Do not assume that someone will automatically know how you feel or will eventually "get the message" without you having to say anything.
- Remember that some people think that drinking, dressing provocatively, or going to your or your date's room is saying you are willing to have sex. Be clear up front about your limits in such situations.
- Listen to your gut feelings. If you feel uncomfortable or think you might be at risk, leave the situation immediately and go to a safe place.
- Don't be afraid to "make waves" if you feel threatened. If you feel you are being pressured or coerced into sexual activity, don't hesitate to state your feelings and leave the situation.
- Attend large parties with friends you trust. Agree to "look out" for one another. Leave with the group, not alone. Avoid leaving with people that you don't know very well.
- Take care of your friends and ask that they take care of you. A real friend will challenge you if you are about to make a mistake. Respect them when they do.

If you find yourself in the position of being the initiator of sexual behavior, you owe sexual respect to your potential partner. These suggestions may help you to reduce your risk for being accused of sexual misconduct:

- Clearly communicate your intentions to your sexual partner and give them a chance to clearly relate their intentions to you.
- Understand and respect personal boundaries.
- DON'T MAKE ASSUMPTIONS about consent; about someone's sexual availability; about whether they are attracted to you; about how far you can go or about whether they are physically and/or mentally able to consent. If there are any questions or ambiguity then you DO NOT have consent.
- Mixed messages from your partner are a clear indication that you should stop, defuse any sexual tension and communicate better. You may be misreading them. They may not have figured out how far they want to go with you yet. You must respect the timeline for sexual behaviors with which they are comfortable.
- Don't take advantage of someone's drunkenness or drugged state, even if they did it to themselves.
- Realize that your potential partner could be intimidated by you, or fearful. You may have a power advantage simply because of your gender or size. Don't abuse that power.
- Understand that consent to some form of sexual behavior does not automatically imply consent to any other forms of sexual behavior.
- Silence and passivity cannot be interpreted as an indication of consent. Read your potential partner carefully, paying attention to verbal and non-verbal communication and body language.

Sexual Offense Educational Programming

Because Northampton Community College recognizes sex discrimination in all its forms as important issues, the College offers annual educational programming to a variety of groups such as: staff, security, Residence Life, Faculty, incoming students, resident and off-campus students and, members of student organizations. Visit www.Notalone.gov for more information and resources on avoiding and preventing sexual assault.

Sex Discrimination educational programming may address matters such as: a definition of what constitutes sex discrimination, the causes of sex discrimination, myths involved with sex discrimination, prevention, the relationship between sex discrimination and alcohol use, what to do if you are assaulted, the nature of a rape examination, an explanation of the College sex discrimination policy, how to file charges within the College, its conduct system, and/or with the local police department, men's issues and sexual assault, and campus community resources to assist both the survivor and the accused.

Federal Enforcer

The U.S. Department of Education, Office for Civil Rights (OCR) is the federal agency charged with enforcing compliance with Title IX. Individuals with complaints of this nature always have the right to file a formal complaint with the United States Department Education:

Office for Civil Rights (OCR)

400 Maryland Avenue, SW
Washington, DC 20202-1100
Customer Service Hotline #: 800.421.3481
Facsimile: 202.453.6012
TDD#: 877.521.2172

Email: OCR@ed.gov
Web: http://www.ed.gov/ocr

Establishment and Approval of Special Studies Courses

Policy and Procedure for Special Studies Courses

- Special Studies courses may be established for 1, 2, 3 or 4 credits and will have a course designation of 19X or 29X.
- The courses are entitled "Special Studies in (Departmental Name)". On the schedule and the transcript, the name of the specific topic would be included after the course title, e.g. Special Studies in Economics - Econometrics.
- Students may not apply more than 12 credit hours of Special Studies toward a degree. Special Studies topics which are later approved as separate courses in substantially the same form shall not be counted toward this limit.
- A Special Studies course may be offered once, or upon the approval of the dean, twice. A Special Studies course may not compete with an existing college course or another Special Studies course.
- In departments that do not already have Special Studies courses, the provision for such courses may be established within each department by means of a Curriculum Committee proposal submitted through normal channels.
- To propose a specific Special Studies course, follow the procedures listed below: **The steps must be completed before the publication deadline for the schedule for the semester in which the course is to be offered.**
    - A faculty member wishing to offer a Special Studies course must submit a completed course outline to the dean of the division.
    - After approval by the dean, the course outline is considered by the appropriate cluster.
    - The Cluster will decide the appropriateness of the offering and recommend to the Dean the semester of offering.
    - The recommendations of the cluster are forwarded by the division dean to the curriculum committee for approval.

Final Examinations

Final Examinations

Faculty members are encouraged to use the last week of instruction for assimilative or integrative activities wherever instructionally appropriate. No tests of any kind, except for short (less than 15 minutes) quizzes or science lab practicals, may be given during the last week of instruction. All courses will end with some "culminating experience," a final examination, project-based assessment or portfolio that integrates the learning of the whole semester.

Final Exam

Each course will be assigned a time during the final exam period, at which a final exam may be given.

Culminating Experiences other than seated final exams

Final papers and projects may be due on the "Project due date" on the first day of finals. Performance-, production-, and critique-based "culminating experiences," which may run the course of days or several weeks, may begin before the final exam period.

View Final Exam Schedule

Grading/Grade Changes/Grade Appeal

Grading System

A plus/minus grading system is used at the College. Using the plus/minus system is an option for faculty, not a requirement.

Grades will be available online at MyNCC at the end of each regular semester. At the end of the seventh week of classes, faculty will submit to the Records Office the names of all students whose performance in a particular course to date puts them at risk of failing the course. The Records Office will communicate this information to those students by the end of the eighth week of the semester.

Grade	Evaluation	Points/Credit Hour
A	Superior	4.0
A-		3.7
B+		3.3
B	Above Average	3.0
B-		2.7
C+		2.3
C	Average	2.0
C-		1.7
D+		1.3
D	Below Average	1.0
F	Fail	0.0
P	Pass	
I[1]	Incomplete	
N	Not released	
R	Released	
X	No grade submitted	

IP	In progress	
L	Audited	
T	Transfer Credits	
Z	Successful completion of course challenge process	
AZ[4]	Successful completion of course challenge process	4.0
BZ[4]	Successful completion of course challenge process	3.0
CZ[4]	Successful completion of course challenge process	2.0
TZ	Credits accepted through articulation agreement	
W[2]	Withdrawal	
WP[3]	Withdrawal, Passing	
WF[3]	Withdrawal, Failing	
Grade*	Course repeated - this grade IS NOT included in GPA	
Grade**	Course repeated - this grade IS included in GPA	

1. An incomplete grade (I) is given only when the student had obtained, in advance, the permission of the instructor to postpone completion of specific course work for a valid reason. (Refer to Incomplete policy.)
2. A student may withdraw, or be withdraw administratively, from a class in which he or she is enrolled through the 90% point in the instructional period.
3. Through summer 2007, students who withdrew from a course through the first 2/3 of the instructional period received a grade of W. After that point, and through the end of the semester, student received a grade of WP or WF. The grade of WF counted as a grade of F in the student's grade point average.
4. Grade value for completion of developmental math modular units awarded through course challenge process; beginning Fall 2014.

Grade Changes

Any grade changes by a faculty member must be made within five months of the end of the semester in which the original grade was issued. Withdrawal from a course is a final action. No change to the final grade is permitted in the case of a Withdrawal.

Grade Appeal

Grades are assigned by the course instructor. Students may appeal a final grade only in the cases where they are alleging a serious computational error in the grade or in cases where they allege unfair treatment in the application of a course policy or procedure.

When a student wishes to appeal a grade, final or part of a semester's work, he or she must follow the appeal procedures for grades, and those involved in the appeal may recommend only the following actions:

- The assigned grade may be supported.
- The faculty member may be asked to reconsider the grade in question.

Appeal procedure-grades

Step 1

- If a student wishes to appeal a grade, he or she must make an appointment and meet with the faculty member within ten working days. To appeal final grades or grades assigned in the last week of the semester, the student must make an appointment and meet with the faculty member at a formal meeting during the first week of the next regular semester unless arrangements can be made to meet prior to that time.
- If no agreement can be reached, the student may file an appeal in the Office of the Vice President for Academic Affairs and proceed to Step 2.

Note: working day is defined as any day when a full schedule of classes are in session (this excludes Saturdays and Sundays).

Step 2

- Within three working days of the meeting with the faculty member, the student may request in writing that the appropriate dean should call the meeting within five working days to include the student, faculty member, and program director, if any.
- After this meeting, the dean will send all parties involved a written recommendation within three working days.
- Students who do not agree with the recommendation in Step 2 may appeal to the Academic Appeals Committee within three working days. This appeal must be submitted, in writing, to the Vice President for Academic Affairs.

Step 3

- Students initiate appeals to the Academic Appeals Committee (within three days of notification of outcome of Step 2) by requesting a hearing through the Office of the Vice President for Academic Affairs. A hearing will be scheduled as quickly as possible, and all parties to the appeal will be informed of the date, time, and place of the meeting. It is the responsibility of the student and the person(s) whose decision(s) is (are) being appealed to provide the committee with evidence, documentary or otherwise. The appellant may be accompanied by a college friend.
- Having heard the cases of appellant and objects of appeal, the committee will deliberate in private and recommend a decision to the Vice President for Academic Affairs, whose decision will be final unless different from the recommendation of the committee; in such cases the student may appeal to the President, whose decision is final.
- The Vice President for Academic Affairs will communicate in writing a decision on the appeal no later than three working days after the hearing.

Graduation

Eligibility

To be eligible for graduation, a student must meet the minimum number of credits for a degree, certificate, or specialized diploma and must earn a graduation GPA of 2.00 (only courses for the credential are calculated in the graduation GPA). Developmental coursework does not count toward graduation requirements. These specific requirements cannot be waived.

Waiver of Graduation Requirements Policy and Procedure

Policy to request course substitution/waiver for graduation

A student may file a graduation waiver to use one course to substitute for one required in their program major, or to waive a requirement without substitution. This request must be accompanied by a complete justification for the request.

Waiver of Graduation Requirements Procedure

To petition to waive graduation requirements, a student must complete the Graduation Waiver request form which can be obtained in the Records Office, Monroe Enrollment Office or online at www.northampton.edu/register. The completed form must be submitted to the Records Office. It will be reviewed by the program dean, the instructor, and the dean responsible for the course(s) for which waiver is sought. If the reviewing parties do not reach a consensus decision, then the request will be referred by the Records Office to the Academic Appeals Committee for disposition. That body will recommend approval or disapproval of the petition. Decision of the Academic Appeals Committee will be final. Student will be notified by Records of final decision.

Honors at Graduation

See Academic Recognition

Incomplete Policy

An incomplete grade of I is issued after a student requests it and a faculty member agrees to allow completion of specific course work the student did not complete due to valid, unforeseen circumstances. These circumstances may include: serious illness of the student, serious illness or death in the student's immediate family, etc. The request must be made for the Incomplete grade before the last class meeting of the semester. The faculty member may approve or deny the request. If the request is approved, the faculty member will outline, on the Assignment of Incomplete Grade form, the work the student must complete. The faculty member will send the Assignment of Incomplete Grade form to the Records Office who will then communicate with the student.

The deadline for completing the course requirements is no more than five months - or sooner as designated by the faculty member - after the date grades were due in the semester in which the I grade was issued. The faculty member will designate that the incomplete grade become a specific letter grade if the work is not completed. This grade may not be a withdrawal (W). An Incomplete grade in a prerequisite course may make a student ineligible to take the subsequent course.

Placement Policy

For detailed information, see Placement Policy.

Prerequisite/Co-Requisite Policy

Students are required to fulfill the prerequisites and/or co-requisite for each course. If a student enrolls in a course without having fulfilled the prerequisites and/or co-requisites, the instructor or the Registrar may withdraw the student from the course.

A prerequisite and/or co-requisite may be waived in special circumstances by the course instructor or the dean in the absence of the instructor, in response to a student's request. If the waived prerequisite and/or co-requisite is a required course in the student's program, the student must satisfy the requirement with a course approved by the dean.

Repeated Courses

The College allows a student to repeat any course once for any reason*. This is subject to availability in limited enrollment courses (see special policy for readmission, reentry into limited enrollment courses).

A student, who fails to earn credit or to satisfy a grade prerequisite after enrolling in a course for the second time may not take the course for one academic year after the last attempt.

Grades for all repeated courses will appear on the student transcript. The credit hours for the course may be counted only once unless the course description states otherwise. Only the highest grade earned will be used in calculation of the cumulative grade point average.

Appeals to this policy may be made to the Director of Advising & Transfer Services who, in consultation with the appropriate faculty, will make a decision. Further appeals can be made to the Vice President for Academic Affairs and that decision shall be final.

*Except for Allied Health Students (refer to Academic Dismissal from Allied Health Programs Policy)

Re-Admission, Re-Entry into Limited Enrollment Courses

Any student who does not successfully complete a major course* in a program which has limited enrollment may retake that course only if space is available. Priority will be given to students entering the program for the first time and to those students who have successfully completed the core courses and have maintained continuous enrollment.

* A major course is a course which carries the prefix of the student's program.

Withdrawals

Schedule Change/Withdrawal

A change of class from one class section to another is accomplished only with approval of the Records Office. Failure to seek official approval may result in the recording of an "F" grade.

No courses may be added to a class schedule after the first week of a semester or equivalent time in short-term classes.

Students may withdraw from classes in which they are enrolled through the 90% point of the semester (the end of the 14th week in a 15 week semester, or equivalent in courses that run on a non-standard schedule) and an instructor may issue a withdrawal for poor attendance through the same period. Any student who officially withdraws, or is withdrawn by the instructor during this period will receive a grade of W for the course.

Academic Dismissal from Allied Health Programs

(Nursing, Dental Hygiene, Medical Assistant, Radiography, Diagnostic Medical Sonography, Funeral Service, Licensed Massage Therapy, and Veterinary Technician)

Any student who does not successfully complete* two (2) courses (either two different courses or the same course twice), that carry the prefix of the student's Allied Health program, regardless of when in the program curriculum the unsuccessful attempt occurs, will be dismissed from his/her Allied Health program. An unsuccessful course completion for the purposes of this policy is defined as a final course grade of an "F," or "W".

Student Right to Know and Campus Security Act

Graduation rates, transfer out rates, and campus crime data required by the Student Right to Know and Campus Security Act are available upon request from the Records Office, 610.861.5494, the Office of the Vice President for Student Affairs, 610.861.4558, or Campus Security.

2014 Annual Crime Report (PDF)

Student Rights and Responsibilities

A student has the right to pursue an education in an environment that is conducive to the free flow of information and ideas. At Northampton Community College, a student is encouraged to express him or herself through speech and actions and to actively participate in decisions affecting the educational process of the College. With rights come responsibilities. A student has the responsibility to realize that his or her actions must not interfere with the College's function as an educational institution and with the rights of others. The current student handbook contains the full student's rights and responsibilities document.

Policy on Student Professional Conduct

Documented evidence of a student's failure to conduct herself/himself in accordance with professional codes of conduct (i.e. Departmental and Host Facilities Code of Ethics, Policies on Clinical Procedures, Departmental Policies and Procedures, etc.) could result in serious academic penalties, up to and including failure in the course or dismissal from the academic program. If a student wishes to appeal any action taken under this policy, he/she should follow the procedures for appeal of grades.

Transfer Recommendation Policy

To receive an unconditional recommendation for transfer from the Office of the Vice President for Student Affairs, a student must have a cumulative grade point average of 2.00 and no prior disciplinary record at NCC. Students who do not satisfy the two aforementioned requirements may receive a conditional transfer recommendation.

Policies Found in Student Handbook

Visit www.northampton.edu/StudentHandbook

Student Medical Examinations Policy, Student Handbook page 15

Information Technology Acceptable Use Policy, Student Handbook page 36

Confidentiality, Student Handbook page 47

Student Code of Conduct, Student Handbook page 55

Smoking/Tobacco Policy, Student Handbook page 73

Drug and Alcohol Use, Student Handbook page 73

Degree Information

Northampton Community College confers the following in designated programs of study:

Degrees:

- Associate in Arts degree (A.A.)
- Associate in Science degree (A.S.)
- Associate in Applied Science degree (A.A.S.)

Certificates

Specialized Diplomas

Details of the curriculum framework for degrees are shown at the end of the Degree Information section of this catalog.

Degree and Graduation Requirements

The following requirements apply to all degree, certificate, and specialized diploma programs:

- Students must have a cumulative grade point average of 2.00 (C or higher) for all work applied toward the program at Northampton.
- Students must successfully complete the specific program requirements as outlined elsewhere in this catalog.
- If a student breaks matriculation for two consecutive major semesters, the program requirements in effect during the semester of re-entry shall be the student's graduation requirements.
- A student may graduate under the requirements in effect during the year of entry into the program, those in effect during the year of re-entry (as described above), or those in effect during the year of graduation.
- Formal application for graduation must be made by submitting the designated form to the Records Office prior to the date stipulated on the College calendar.
- Students are ultimately responsible for ensuring that they have met all graduation requirements. Any student who wishes to earn either a specialized diploma or certificate as well as an A.A., A.S., or A.A.S. degree in the same program must earn the certificate or specialized diploma first.
- Students seeking a second major or second degree must complete requirement for the second program with at least 15 different credits.

Additional requirements for specialized diplomas:

- The specialized diploma program will have no less than 6 credits and typically no more than 30 credits.
- At least one-fourth of the credits or a minimum of nine credits, whichever is greater, must be earned at Northampton.

Additional requirements for certificates:

- The certificate program includes a minimum of 30 credits, and must include six credits outside the particular field, taken from the general education core.
- At least one-fourth of the credits or a minimum of nine credits, whichever is greater, must be earned at Northampton.

Additional requirements for all degrees:

- The degree program includes a minimum of 60 semester hours of credit.
- At least one-fourth of the credits or a minimum of fifteen credits, whichever is greater, must be earned at Northampton.

A.A. and A.S. Degrees

An A.A. degree is defined as requiring 12 credit hours of humanities, 12 credit hours of social science and 9 credit hours of mathematics and science. The following programs lead to the associate in arts degree:

- Business Administration
- Communication Studies
- Middle Level Education: Grades 4 - 8
- Secondary Education
- Fine Art
- General Studies
- Individualized Transfer Studies
- Journalism
- Liberal Arts
- Social Work
- Sport Management
- Theatre

An A.S. degree is defined as requiring 12 credit hours of humanities, 6 credit hours of social science and 24 credit hours of mathematics and science. The following programs lead to the associate in science degree:

- Biological Science
- Chemistry
- Computer Science
- Computer Information Systems
- Secondary Education: Mathematics and Science
- Engineering
- Math/Physics
- Sports Medicine: Athletic Training

In addition to the specific requirements for the A.A. and A.S. degrees, there is a General Education Core for both the A.A. and A.S. degree with the minimum requirements listed on the following page.

Curriculum framework for degrees

An associate in arts degree should contain:

- A minimum of 50 percent common or general knowledge (humanities and social science preliminary courses, and at least one science or math course);
- A minimum of 25 percent contextual knowledge (science, mathematics, and pre-specialization courses in humanities or social sciences).

An associate in science degree should contain:

- A minimum of 33 percent common or general knowledge (humanities and social science preliminary courses);
- A maximum of 67 percent scientific and technically related courses (mathematics and science; within technical A.S. degrees like engineering, mathematics and science should roughly equal technical courses in number of credits).

An associate in applied science degree program should contain:

- A minimum of 33 percent common knowledge (humanities and social sciences courses and one math or science course);
- A minimum of 50 percent and a maximum of 67 percent technical and technically related courses. Mathematics and science are essentially technically related, contextual courses in all curricula, but they are critical to the effectiveness of most A.A.S. degrees; they may appear as "purer" contextual courses in the technically related category and as applied courses in the technical category.

Frequency of offerings

Courses listed in this catalog are generally offered at least yearly, unless
otherwise noted in course descriptions.

GENERAL EDUCATION CORE CURRICULUM REQUIREMENTS

Associate in Arts (A.A.) Degree
Associate in Science (A.S.) Degree

1. 1. **Communication** - 9 credits
   ENGL101C English I, ENGL151L or ENGL151R or ENGL151T, English II, CMTH102 Speech Communication.

   In addition:
   Writing Intensive (WI). Communication skills in writing are further reinforced and assessed in two required writing intensive courses (G suffix on course number). One of the General Education courses must be writing intensive. A second writing intensive course may be a General Education course, or a course in the major.
2. **Quantitative Literacy (QL)** - 3-4 credits
   One QL designated course or substitution acceptable to the mathematics department.
3. **Computer Literacy (C)**
   Incorporated in all programs in a manner acceptable to the computer/information science department. Any CISC course or verification of computer literacy outcomes imbedded in courses in certain programs.
4. **Arts & Humanities (AH)** - 3 credits - One AH designated course
5. **Social Science** - 6 credits

   One Societies and Institutions Over Time (SIT) designated course.
   One Scientific Study of Human Behavior (SSHB) designated course.
6. **Science (SCI)** - 3/4 credits
   One SCI designated course
7. **Diversity and Global Awareness (D)**
   One Diversity and Global Awareness (D) designated course.

The Electives section of this catalog lists the 100- and 200-level electives which are applicable to the A.A. and A.S. degrees, unless otherwise specified in program requirements. Since the A.A and A.S. degrees are intended for transfer, any courses not in that section are not applicable to the A.A. and A.S. degrees.

All degree programs other than those listed above for A.A. and A.S. degrees lead to the A.A.S. Degree.

A.A.S. Degree

GENERAL EDUCATION CORE CURRICULUM REQUIREMENTS

Associate in Applied Science (A.A.S.) Degree

1. **Communication** - 9 credits

   ENGL101C English I, ENGL151L or ENGL151R or ENGL151T, English II, CMTH102 Speech Communication.

   In addition:

   Writing Intensive (WI). Communication skills in writing are further reinforced and assessed in one required writing intensive course (G suffix on course number). A program course to be taken in a writing intensive section. A general education course may be taken if no program course is possible.
2. **Quantitative Literacy (QL) or Science (SCI)** - 3/4 credits

   One QL designated course or substitution acceptable to the mathematics department, or one SCI designated course.
3. **Knowledge of Arts & Cultures** - 9 credits

   Three courses in at least two of the fields below. Science or Quantitative Literacy substituted for the third course in certain programs:

   - Arts & Humanities (AH)
   - Social Science, one Societies and Institutions Over Time (SIT) designated course.
   - Social Science, one Scientific Study of Human Behavior (SSHB) designated course.
4. **Undesignated free elective** (open to student choice) - 3 credits.
5. **Computer Literacy (C)**

   Incorporated in all programs in a manner acceptable to the computer/information science department. Any CISC course or verification of computer literacy outcomes imbedded in courses in certain programs.
6. **Diversity and Global Awareness (D)**

   One Diversity and Global Awareness (D) designated course.

Electives

Electives shown below satisfy requirements for electives in various programs, unless otherwise specified in program requirements. Note that only 100- and 200-level courses apply to degrees, and that those applying to A.A. and A.S. degrees must be chosen from the lists of courses applicable to those degrees.

While courses at the 0XX level carry credit for determining student load, those credits may not be applied to any degree, certificate, or diploma granted by the College.

The elective type of special studies courses is designated at the time of offering.

Business Electives

A.A. and A.S. degrees:

- Accounting - ACCT 100, 101, 151, 201, 202, 251
- Business Administration - BUSA 101, 131, 152, 191, 192, 193, 201, 202, 205, 221
- Computer/Information Science - CISC 101 115, 125
- Economics - ECON 201, 251G

A.A.S. degrees:

- Accounting - ACCT all courses
- Business Administration - all BUSA except 252
- Economics - ECON 201, 251G

Humanities Electives - all degrees:

- Art - only ARTA 101
- Communications - all CMTH except 120, 122, 170, 185, 240, 251, 252
- Dance - all DANC
- English - all ENGL
- Humanities - all HUMA
- Modern Language - all MDLA
- Music - only MUSC 101

- Philosophy - all PHIL

Note: ARCH 100 may serve as a humanities elective for Architecture A.A.S. students only.

Literature Electives - all degrees:

- English - all ENGL numbered 200 level except ENGL 211G, 215G, 253, and 267

Mathematics Electives

A.A. and A.S. degrees:

- Mathematics - only MATH 118 (Middle Level Education, Early Childhood Education and Special Education only), MATH 119 (Middle Level Education and Early Childhood Education only), 120, 140, 145, 150, 160, 165, 175, 176, 180, 181, 191, 192, 193, 194, 202, 210, 211

A.A.S. degrees:

- Mathematics - those listed above for A.A. and A.S. degrees plus
  MATH 103

Physical Education Electives - all degrees:

- Dance - DANC 110, 120, 130, 210, 220, 230
- Physical Education - all PHED

Science Electives - all degrees:

- Biological Science - all BIOS except 281, 282, 283
- Chemistry - only CHEM 105, 120, 135, 201, 220, 225, 251, 291, 292, 293, 294
- Geography - only GEOG 150, 210
- Geology - all GEOL
- Physics - all PHYS

Social Science Electives - all degrees:

- Counseling - only COUN 100 (but not applicable to Liberal Arts)
- Economics - only ECON 201
- Geography - all GEOG except 130, 150, 210
- History - all HIST
- Political Science - all POLS
- Psychology - all PSYC except 221
- Sociology/Anthropology - all SOCA

Other Electives

A.A. and A.S. degrees:

- Accounting - only ACCT 100, 101, 151, 201, 202, 251
- Architecture - only ARCH 100
- Art - only ARTA 101, 111, 161, 162, 291, 292, 293; see note concerning Art courses.
- Biological Science - all BIOS except 281, 282, 283
- Business - only BUSA 101, 115, 131, 152, 191, 192, 193, 201, 202, 205, 221, 272
- Chemistry - only CHEM 105, 120, 135, 201, 220, 225, 251, 260, 291, 292, 293, 294
- Communications - all CMTH except 180, 182, 185, 240, 252
- Computer/Information Science - only CISC 101, 104, 115, 125, 225, 230, 270
- Counseling - only COUN 100, 291, 292, 293
- College Success - COLS 101, 120
- Dance - all DANC
- Economics - ECON 201, 251G
- Education - all EDUC except 105
- Engineering - only ENGG 100, 191, 192, 193, 194, 201, 251, 252
- English - all ENGL
- Geography - all GEOG
- Global Studies - GLBL 130, 160, 230
- Health - only HEAL 150
- History - all HIST
- Hospitality - only HOSP 101
- Humanities - all HUMA
- Interdisciplinary Studies - INTS 101, 202, 250
- Journalism - only JOUR 103, 201
- Mathematics - only MATH 120, 140, 145, 150, 160, 165, 175, 176, 180, 181, 191, 192, 193, 194, 202, 210, 211

- Modern Language - all MDLA
- Music - all MUSC
- Nutrition - NUTR 105
- Philosophy - all PHIL
- Physical Education - any PHED courses up to a maximum of two credits
- Physics - all PHYS
- Political Science - all POLS
- Psychology - all PSYC except 221
- Sociology/Anthropology - all SOCA
- Special Education - SPED 160

A.A.S. degrees:

- All courses except: 0XX-level courses; EARL 221, 222

Note concerning Art courses:

- ARTA 161 is applicable only to the General Studies Program, Fine Art Program and A.A.S. degrees.

General Education Core Curriculum (GE)

What is General Education at Northampton Community College?

An undergraduate degree is comprised of three parts: courses in the major, elective courses, and courses in the General Education Core Curriculum. *Major courses* define the program of study. Students choose *electives* that fit their individual interests. The General Education Core Curriculum is the part of the academic experience that all students have *in common*.

The GE Core defines an important set of knowledge and skills that will help our graduates to continue learning, adapt to change, and become citizens who can make wise choices and contribute to their community.

The General Education Core Curriculum is designed to go hand in hand with the major courses to develop skills that will serve students in their academic study, careers, and in their lives. Though in some designated GE Core courses the focus will be on particular outcomes, we expect that the knowledge and skills that are part of the GE Core Curriculum will be reinforced throughout the other major courses and electives

Courses satisfying various General Education Core requirements are listed below by category; such requirements must be satisfied by selecting courses from among the listings below. Unless otherwise specified, they are applicable to all degrees (A.A./A.S./A.A.S.).

General Education Core Goals and Learning Outcomes

I. Knowledge of Arts, Cultures and the Natural World

ARTS & HUMANITIES

Goal: Students should understand both the creative process and how works of human imagination and thought from diverse cultures, places, and times express varieties of human experience.

Learning Outcomes:

- Students will discuss, analyze and interpret works that confront, express, and examine human experience.
- Students will describe and explain the ways that language, literature, philosophy, or the visual and performing arts challenge or reinforce specific cultural or historic values and conditions.

SOCIAL SCIENCE

Goal: Students will demonstrate knowledge of Societies and Institutions Over Time (SIT) and the Scientific Study of Human Behavior (SSHB).

Learning Outcomes:

- Students will identify and apply social science theories and concepts to behavioral or societal issues. (SIT & SSHB)
- Students will explain how a social science discipline describes and analyzes social change or human behavior.
- Students will describe how people's experiences and perspectives are shaped by sex, gender, ethnicity, class, age, race, culture and other factors.

Note: Social science courses must address the first outcome and one of the two remaining outcomes.

SCIENCE

Goal: Students will demonstrate a working knowledge of scientific principles and concepts and be able to apply them to daily situations.

Learning Outcomes:

- Students will explain the scientific method, recognizing the potential for uncertainty in the scientific inquiry.
- Students will apply basic field and laboratory skills used for collecting and analyzing data according to the particular discipline.

DIVERSITY AND GLOBAL AWARENESS

Goal: Students will demonstrate an understanding of human diversity and an awareness of global issues through analysis of arts, histories, cultures, geographies, economics, medicine, scientific data and/or institutions.

Learning Outcomes:

- Students will discuss and explain how the diverse range of human differences influences the historical and current formation of artistic, economic, social, scientific, cultural or political institutions.
- Students will examine how the range of human differences influences each individual's experience of equality and inequality within a society, its institutions, or its cultures.
- Students will analyze how individuals and institutions have addressed persistent global challenges.

Note: to carry a diversity designation, the course needs to address at least one of the three outcomes.

II. Intellectual and Practical Skills

COMMUNICATION

Goal: Students will present and support ideas in an organized and coherent manner consistent with the intended audience and purpose in both speaking and writing.

Learning Outcomes:

- Students will identify, analyze, and choose supporting materials in written and spoken communication.
- Students will organize information with a central idea or thesis.
- Students will differentiate among various audience needs in word choice, level of explanation, and method of presentation.

COMPUTER LITERACY

Goal: Students will use computer technology as a tool for communication and productivity both professionally and personally.

Learning Outcomes:

- Students will demonstrate knowledge of computer concepts and terminology.
- Students will create, store, retrieve, and print formatted documents.
- Students will evaluate ethical uses of technology.

QUANTITATIVE LITERACY

Goal: Students will interpret and analyze quantitative data to solve problems.

Learning Outcomes

- Students will interpret, analyze, and draw conclusions about data presented as words, abstract symbols, tables or graphs.
- Students will use mathematics to model events and solve problems.
- Students will communicate using mathematical language, symbols, data, and graphs.

INFORMATION LITERACY

Goal: Students will demonstrate research skills in gathering, evaluating, and using information.

Learning Outcomes

- Students will locate and identify information
- Students will evaluate source information and incorporate it into their work.
- Students will use source information in an ethical and legal fashion.

CRITICAL THINKING AND PROBLEM SOLVING

Goal: Students will think critically and propose solutions to open-ended problems.

Learning Outcomes:

- Students will analyze and evaluate information, ideas and arguments in order to form conclusions.
- Students will design and evaluate a plan that addresses an open-ended problem.

Note: to carry a critical thinking designation, the course must address at least one of the two outcomes.

Arts and Humanities (AH)

ARCH 100 - Architectural History I - Antiquity to 1870 (Architecture only)
ARTA 100 - Art and Visual Thinking
ARTA 101 - Art History Survey
CMTH 110 - Introduction to the Theatre
CMTH 111 - Acting I
CMTH 115 - Technical Theatre

CMTH 117 - Stagecraft
CMTH 126 - The Communication Arts
CMTH 189 - Stage Voice and Movement
CMTH 190 - Stage Production
CMTH 206 - Directing
CMTH 211G - Plays: Classical to Contemporary
CMTH 212 - Acting II
CMTH 218 - Theatre Portfolio
CMTH 220 - Introduction to Film
DANC 101 - Dance History
DANC 110 - Ballet I
DANC 120 - Modern Dance I
DANC 130 - Jazz I
DANC 210 - Ballet II
DANC 220 - Modern Dance II
DANC 230 - Jazz II
ENGL 201G - British Literature I
ENGL 203G- Shakespeare
ENGL 205G - American Literature I
ENGL 211G- Plays: Classical to Contemporary
ENGL 215G- Multicultural Adolescent Literature
ENGL 250G- Latin American Literature
ENGL 251G- British Literature II
ENGL 253 - Creative Writing
ENGL 255G - American Literature II
ENGL 256G - Modern Poetry
ENGL 257G - 20th Century Literature by Women: Self-Images and Self-Awareness
ENGL 260G - Contemporary Literature
ENGL 264G - Irish Literature
ENGL 265G - African-American Literature
ENGL 267 - Poetry Writing
HUMA 121 - The American Work Experience
HUMA 140 - Introduction to Women and Gender Studies
HUMA 150 - Nature of the Environment
JOUR 101 - Journalism and Society
MDLA 102 - Elementary French I
MDLA 103 - Elementary Spanish I
MDLA 105 - Elementary Chinese I
MDLA 107 - Elementary Arabic I
MDLA 112 - Elementary French II
MDLA 113 - Elementary Spanish II
MDLA 115 - Elementary Chinese II
MDLA 117 - Elementary Arabic II
MDLA 122 - Intermediate French I
MDLA 123 - Intermediate Spanish I
MDLA 125 - Intermediate Chinese I
MDLA 133 - Intermediate Spanish II
MDLA 135 - Intermediate Chinese II
MUSC 101 - Introduction to Music
PHIL 111 - On Death and Dying
PHIL 121 - World Religions
PHIL 201 - Introduction to Philosophy
PHIL 202 - Ethics and Moral Problems
PHIL 204 - Asian Philosophies
PHIL 211 - Ancient Philosophy
PHIL 215 - Modern Philosophy
PHIL 220 - Existentialism

Critical Thinking (CT)

CJST 111 - American Legal System
CJST 115 - Criminal Law
CJST 121G - Criminology
CJST 250 - Contemporary Issues in Criminal Justice
ENGL 255G - American Literature II

ENGL 260G - Contemporary Literature
HIST 173 - Modern European History: 1815 - Present
GEOG 210 - Weather and Climate
PHIL 111 - On Death & Dying
POLS 101 - Introduction to Political Science
POLS 105G - American Constitution Law
POLS 202 - International Relations
POLS 251 - State and Local Government
SOCA 102 - Cultural Anthropology
SOCA 103 - Principles of Sociology
SOCA 150 - Deviance

Social Science: Societies and Institutions over Time (SIT)

ARCH 155 - Architectural History II - 1870 to Present (A.A.S. only)
CMTH 221 - History of Broadcasting
GEOG 101 - World Geography
GEOG 151 - Geography of the United States and Canada
GLBL 130 - Introduction to Global Studies
GLBL 160 - Field Experience and Academic Research in Global Studies
GLBL 230 - Global Studies Capstone
HIST 103 - Ancient and Medieval History
HIST 113 - American History I
HIST 121 - The Black Experience
HIST 123 - African Civilizations
HIST 140 - Modern Chinese History
HIST 153 - Foundations of Modern European History, 1300-1815
HIST 163 - American History II
HIST 166 - Civil War and Reconstruction
HIST 167 - Vietnam
HIST 168 - History of the Middle East
HIST 173 - Modern European History, 1815 to Present
HIST 210 - History of Modern Science, 1859 to Present
HIST 211 - History of Pennsylvania
INTS 201 - Implementing Sustainable Energy Systems in Developing Communities
INTS 202 - The Architecture of the City: Classic to Contemporary
POLS 101 - Introduction to Political Science
POLS 105G - American Constitutional Law
POLS 110 - American National Government
POLS 150 - Peace Studies and Conflict Resolution (Study Abroad)
POLS 170 - Politics of Modern Turkey (Study Abroad)
POLS 202 - International Relations
POLS 205 - Women and Politics
POLS 251 - State and Local Government
SOCA 102 - Cultural Anthropology
SOCA 105 - American Ethnicity
SOCA 160 - Issues in Contemporary Genocide and Mass Violence

Social Science: Scientific Study of Human Behavior (SSHB)

ECON 201 - Macroeconomics
GEOG 121 - Environmental Sustainability
GEOG 140 - Investigating Climate Change
GEOG 271 - Introduction to Geographic Information Systems
HUMA 250G - Research Methods in the Social Sciences
INTS 250 - Study Abroad
PSYC 103 - Introduction to Psychology
PSYC 230 - Introduction to Health Psychology
PSYC 235 - Developmental Child Psychpathology
PSYC 245 - Cognitive Psychology
PSYC 255 - Abnormal Psychology
PSYC 258 - Developmental Psychology
PSYC 265 - Psychology of Sex and Gender
SOCA 103 - Principles of Sociology
SOCA 125 - Sociology of Families
SOCA 210 - Sociology of Gender

Quantitative Literacy (QL)

MATH 103 - Applications in Mathematics (A.A.S. only)
MATH 118 - Foundations of Mathematics I (Middle Level Education, Early Childhood Education & Special Education only)
MATH 119 - Foundations of Mathematics II (Middle Level Education & Early Childhood Education only)
MATH 120 - The Nature of Mathematics
MATH 140 - College Algebra
MATH 145 - Trigonometry
MATH 150 - Introductory Statistics
MATH 160 - Pre-Calculus
MATH 165 - Applied Calculus
MATH 175 - Calculus with Precalculus (part 1)
MATH 176 - Calculus with Precalculus (part 2)
MATH 180 - Calculus I
MATH 181 - Calculus II
MATH 210 - Calculus III
MATH 211 - Differential Equations

Science (SCI)

BIOS 104 - Field Ecology
BIOS 105 - Contemporary Biology
BIOS 107 - Biology I
BIOS 110 - In Your Genes: Introduction to Modern Genetics
BIOS 115 - Essentials of Biology
BIOS 126 - Environmental Science
BIOS 130 - Basics of Human Anatomy and Physiology (Healthcare Office AAS Only)
BIOS 150 - Biology II
BIOS 160 - Human Biology
BIOS 202 - Microbiology
BIOS 204 - Human Anatomy and Physiology I
BIOS 206 - General Ecology
CHEM 105 - Chemistry in Contemporary Society
CHEM 120 - General Chemistry I
CHEM 135 - Chemistry of Life
GEOG 150 - Astronomy
GEOG 210 - Weather and Climate
GEOL 201 - Physical Geology
PHYS 101 - Physics I
PHYS 151 - Physics II
PHYS 152 - Physical Science II
PHYS 215 - Physics for Science and Engineering
PHYS 225 - Physics for Science and Engineering II

Diversity and Global Awareness (D)

BIOS 126 - Environmental Science
BIOS 210 - Environmental Biology
CJST 250 - Contemporary Issues in Criminal Justice (Criminal Justice program only)
CMTH 126 - The Communication Arts
CMTH 211G - Plays: Classical to Contemporary
CMTH 215 - Intercultural Communication
ENGL 151L - English II (Literature)
ENGL 205G - American Literature I
ENGL 211G - Plays: Classical to Contemporary
ENGL 215G - Multicultural Adolescent Literature
ENGL 250G - Contemporary Latin American Literature in Translation
ENGL 251G - British Literature II
ENGL 253 - Creative Writing
ENGL 255G - American Literature II
ENGL 256G - Modern Poetry
ENGL 257G - 20th Century Literature by Women: Self-Images and Self-Awareness
ENGL 260G - Contemporary Literature
ENGL 264G - Irish Literature
ENGL 265G - African-American Literature
ENGL 267 - Poetry Writing

GEOG 101 - World Geography
GEOG 121 - Environmental Sustainability
GEOG 151 - Geography of the United States and Canada
GEOG 210 - Weather and Climate
GLBL 130 - Introduction to Global Studies
GLBL 160 - Field Experience and Academic Research in Global Studies
GLBL 230 - Global Studies Capstone
HIST 113 - American History I
HIST 121 - The Black Experience
HIST 140 - Modern Chinese History
HIST 166 - Civil War and Reconstruction
HIST 168 - History of the Middle East
HIST 173 - Modern European History: 1815 to present
HUMA 121 - American Work Experience
HUMA 140 - Introduction to Women and Gender Studies
HUMA 150 - Nature of the Environment
HOSP 201 - Strategic Leadership in Hospitality (Hospitality Programs only)
INTS 201 - Implementing Sustainable Energy Systems in Developing Communities
MDLA 102 - Elementary French I
MDLA 103 - Elementary Spanish I
MDLA 105 - Elementary Chinese I
MDLA 107 - Elementary Arabic I
MDLA 112 - Elementary French II
MDLA 113 - Elementary Spanish II
MDLA 115 - Elementary Chinese II
MDLA 117 - Elementary Arabic II
MDLA 122 - Intermediate French I
MDLA 123 - Intermediate Spanish I
MDLA 125 - Intermediate Chinese I
MDLA 133 - Intermediate Spanish II
MDLA 135 - Intermediate Chinese II
PHIL 111 - On Death and Dying
PHIL 121 - World Religions
PHIL 204 - Asian Philosophies
POLS 101 - Introduction to Political Science
POLS 105G - American Constitutional Law
POLS 150 - Peace Studies and Conflict Resolution (Study Abroad)
POLS 170 - Politics of Modern Turkey (Study Abroad)
POLS 202 - International Relations
POLS 205 - Women and Politics
POLS 251 - State and Local Government
PSYC 230 - Introduction to Health Psychology
PSYC 258 - Developmental Psychology
SOCA 102 - Cultural Anthropology
SOCA 103 - Principles of Sociology
SOCA 105 - American Ethnicity
SOCA125 Sociology of Families
SOCA 150 - Deviance
SOCA 160 - Issues in Contemporary Genocide and Mass Violence

Information Literacy

ENGL 101 - English I
ENGL 151 - English II
CMTH 102 - Speech Communication
All courses listed as Communication: Writing Intensive General Education Courses (WI)
All courses listed as Communication: Writing Intensive Program Courses (WI)

Communication: Writing Intensive General Education Courses (WI)

ARCH 100G - Architectural History - Antiquity to 1870
BIOS 105G - Contemporary Biology
CMTH 211G - Plays: Classical to Contemporary
ENGL 201G - British Literature I
ENGL 203G - Shakespeare
ENGL 205G - American Literature I

ENGL 211G - Plays: Classical to Contemporary
ENGL 215G - Multicultural Adolescent Literature
ENGL 250G - Contemporary Latin American Literature in Translation
ENGL 251G - British Literature II
ENGL 255G - American Literature II
ENGL 256G - Modern Poetry
ENGL 257G - 20th Century Literature by Women: Self-Images and Self-Awareness
ENGL 260G - Contemporary Literature
ENGL 264G - Irish Literature
ENGL 265G - African-American Literature
GEOG 121G - Environmental Sustainability
GEOG 151G - Geography of the United States and Canada
HIST 113G - American History I
HIST 121G - The Black Experience
HIST 153G - Foundations of Modern European History 1300-1815
HIST 166G - Civil War and Reconstruction
HIST 168G - History of the Middle East
HIST 173G - Modern European History, 1815 to Present
HUMA 121G - The American Work Experience
HUMA 140G - Introduction to Women and Gender Studies
HUMA 250G - Research Methods in the Social Sciences
PHIL 111G - On Death and Dying
PHIL 202G - Ethics and Moral Problems
POLS 105G - American Constitutional Law
POLS 110G - American National Government
POLS 205G - Women and Politics
POLS 251G - State and Local Government
PSYC 103G - Introduction to Psychology
PSYC 258G - Developmental Psychology
SOCA 102G - Cultural Anthropology
SOCA 103G - Principles of Sociology
SOCA 125G - Sociology of Families

Communication: Writing Intensive Program Courses (WI)

AUTO 203G - Automotive Shop Management Practices
BIOS 250G - Introduction to Cell & Molecular Biology
BUSA 221G - Business Communication
CHEM 201G - Organic Chemistry I
CJST 121G - Criminology
CMTH 225G - Scriptwriting
CMTH 230G - Introduction to Communication Theory
DENH 251G - Preventive Oral Health Services I
DMSG 215G - Small Parts & Special Topics
EARL 263G - Early Childhood Internship
ECON 251G - Microeconomics
EDUC 260G - Adolescent Development and Cognition
ELEC 272G - Computer Electronics Practicum II
ELTC 260 G - Electrical Construction Practicum
EMEC 260G - Electromechanical Technology Practicum
HOSP 221G - Hospitality Practicum
HVAC 260G - HVAC/R Technology Practicum
JOUR 201G - Feature Writing
JOUR 203G - Writing for Public Relations
PARL 215G - Legal Research and Writing
PSYC 251G - Child Psychology
QUAL 221G - Applied Quality Practicum
SMAT 245G - Acute Care of Illness and Injury
SPED 205G - Special Education Paraeducator Internship
SPRT 152G - Sports in Society
VETC 215G - Animal Diseases

Academic Programs

Northampton Community College offers a variety of academic programs designed to prepare you to enter the workforce or to transfer to a four-year college or university. If you have questions regarding a specific program, please feel free to call our Admissions Office at 610/861-5500, and a member of the staff will be happy to talk to you.

The academic programs on the following pages are the responsibility of the academic division indicated under the program title, i.e. the Allied Health and Sciences Division, the Business and Technology Division, the Education and Academic Success Division, the Humanities and Social Sciences Division.

The following abbreviations are used in the curriculum section (following the course title) to identify general education core courses:

AH - Arts and Humanities

CT - Critical Thinking

D - Diversity & Global Awareness

QL - Quantitative Literacy

SCI - Science

SIT - Social Science: Societies and Institutions over Time

SSHB - Social Science: Scientific Study of Human Behavior

WI - Writing Intensive

The College makes every effort to ensure that the information contained in this catalog is complete and accurate. However, some omissions and errors may be possible. This catalog should not be perceived as a formal/legal contract.

Programs & Majors

Accounting

Business & Technology

Degree awarded: Associate in Applied Science;
Specialized Diploma conferred

Program Narrative

Accountants are essential team members within large and small corporations, and at non-profits and educational institutions. With a degree in accounting, you'll also have the knowledge you need to manage your own business. Northampton's Accounting program, which is accredited by the Accreditation Council for Business Schools and Programs (ACBSP), provides a solid foundation of specific accounting concepts as well as the skills you'll need to succeed in the field.

Associate in Applied Science Degree Program Features

On its own, Northampton's associate's degree will qualify you for a range of employment opportunities, including entry-level accounting, bookkeeping, accounts payable/receivable and more. If your plan is to pursue a career as a Certified Public Accountant (CPA), an associate's degree from Northampton is an affordable way to start down the path toward the required bachelor's degree.

The AAS degree program can be conveniently completed in the day or evening, on a full- or part-time basis. The program can also be completed online.

The Specialized Diplomas Program Features

Northampton also offers two specialized diplomas in Accounting: the Accounting Specialized Diploma and the Accounting Assistant Specialized Diploma. Both can be completed in the day or evening.

The Accounting Specialized Diploma is intended for students who may already have a college degree but who wish to acquire accounting skills or begin taking steps toward achieving the CPA. To learn more about the requirements of reaching CPA licensure, you can visit PICPA.org.

The Accounting Assistant Specialized Diploma is a good choice for students who would like to begin working quickly in support positions in accounting firms or in other related areas of business. The 18-credit diploma includes introductory accounting classes as well as training on computers.

View Gainful Employment information on the Accounting Certificate

View Gainful Employment information on the Accounting Assistant Certificate

Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes

Graduates of the program will be able to:

- Make decisions that reflect legal and ethical standards in the profession of accounting.
- Prepare financial reports and statements.
- Interpret financial data and financial information.
- Analyze accounting data and information for decision making.

Accounting Program

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
ACCT 101	Financial Accounting I	3
BUSA 152	Business Law I	3
ENGL 101C	English I	3
----------	Mathematics Elective (QL) +	3
----------	General Education Elective ++	3
		15
	Second Semester	
ACCT 151	Financial Accounting II	3
CISC 101	Introduction to Computers	3
CMTH 102	Speech Communication	3
ENGL 151L	English II (Literature)	3
----------	Business Elective +++	3
		15

	Third Semester	
ACCT 201	Intermediate Accounting I	4
ACCT 202	Managerial Accounting	3
ECON 201	Macroeconomics	3
CISC 104	Microcomputer Applications	4
----------	General Education Elective ++	3
		17
	Fourth Semester	
ACCT 220	Income Tax Accounting I	3
BUSA 201	Business Statistics I	4
BUSA 221G	Business Communication	3
----------	Accounting Elective ++++	3
----------	Elective	3
		16
	Total Credits	**63**

+ Mathematics Elective options: MATH 140, 145, 160, 165, 175, 176, 180, 181.
++For the General Education Elective, students must take a course from the list of approved courses in two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
+++ Business Elective options: BUSA 101, 115, 131, 137, 202, 205, 226, 235.
++++ Accounting Elective options: ACCT 160, 205*, 251*, 255* or BUSA 211. * Offered only through Online Learning.

- Completion of ENGL151L satisfies the Diversity and Global Awareness (D) requirement.
- BUSA 221G satisfies the Writing Intensive (WI) requirement for this program.

NOTE: Students will be required to use spreadsheets in their upper level accounting courses. Thus, it is highly recommended that students complete CISC 101 before enrolling in any sophomore accounting courses.

Accounting

Specialized Diploma

Course Code	Course Title	Credits
	First Semester	
ACCT 101	Financial Accounting I	3
BUSA 152	Business Law I	3
		6
	Second Semester	
ACCT 151	Financial Accounting II	3
ACCT 202	Managerial Accounting	3
BUSA 202	Business Law II	3
		9
	Third Semester	
ACCT 201	Intermediate Accounting I	4
ACCT 205	Cost Accounting	3
		7
	Fourth Semester	
ACCT 251	Intermediate Accounting II	3
ACCT 220	Income Tax Accounting I	3
ACCT 255	Principles of Auditing	3
		9
	Total Credits:	**31**

NOTE: Students will be required to use spreadsheets in their upper level accounting courses. Thus, it is highly recommended that students complete CISC 101 before enrolling in any sophomore accounting courses.

Accounting Assistant

Specialized Diploma

Course Code	Course Title	Credits
	First Semester	
ACCT 101	Financial Accounting I	3
CISC 101	Introduction to Computers	3
CMTH 102	Speech Communication	3

		9
	Second Semester	
ACCT 151	Financial Accounting II	3
ACCT 160	Accounting Applications	3
BUSA 211	Personal Finance	3
		9
	Total Credits:	**18**

Career Potential: Accounts Payable/Receivable, Bookkeeper/Payroll, Cost Accountant, Public Accountant, Staff Accountant, Tax Accountant, Account Manager, Account Specialist , Inventory Accountant

Leading to: Auditor, Certified Public Accountant, Comptroller, Treasurer, Trust Officer

Applied Psychology

Humanities & Social Sciences

Degree awarded: Associate is Applied Science

Program Narrative

To meet the need for graduates who are able to function independently in a mental health and human service environment, the Applied Psychology program offers a liberal arts education, focused on counseling and human services. The program will serve students who either wish to transfer to a four-year institution, or students who wish to work in local organizations with a behavioral health or human services focus with this A.A.S. degree.

Graduates of the program will be exposed to a wide diversity of knowledge, be asked to do practical thinking and problem-solving, cultivate knowledge of skills, values and ethics in the counseling profession, and develop a professional identity as a counselor.

Program Features

Foundational courses in communication, statistics, science, social science, and humanities will be complemented with courses in applied psychology. Contextual courses will help students begin to build competency in psychology and human services, while their elective and program choices will allow them to specialize in developing knowledge of life issues and behavior in a selected developmental range (child/adolescent or adult).

Program Outcomes

Students who complete this program will be able to:

1. Distinguish between normal and abnormal developmental processes and behaviors, and correctly identify these processes and behaviors when observing clients.
2. Demonstrate basic counseling skills (active listening, processing, responding, and expressing empathy) effectively with a client with a neurodevelopmental disorder.
3. Discuss and apply ACA ethical standards and values in a counseling/support staff relationship.
4. Recognize the characteristics of a racially and/or culturally diverse individual (demographic characteristics including gender, race, ethnicity, religion, and socioeconomic status) and identify the potential impact of diversity on client functioning.
5. Conduct interviews to gather information in conjunction with reviewing prior assessment material, to explain the client's current functioning from a developmental perspective and identify the client's strengths, needs, and challenges.
6. Discuss the basic principles of the family systems approach, and evaluate these principles in the context of a client's family situation.
7. Write effective, high-quality progress notes, treatment summaries, and other clinical reports to document treatment.

Transfer Possibilities

Penn State University – Human Development and Family Studies, or Applied Psychology
Lehigh University – Psychology Program
Kutztown University – Psychology Program
East Stroudsburg University – Applied Psychology Program
Cedar Crest College – Applied Psychology Program
Marywood University – Psychology, Clinical Track
University of Scranton – Counseling and Human Services Program

Applied Psychology

Degree awarded: Associate in Applied Science

Course Code	Course Title	Credits
	First Semester	
CMTH 102	Speech Communication	3
ENGL 101	English I	3
MATH 150	Introductory Statistics	3

PHIL 201	Introduction to Philosophy	3
PSYC 103	Introduction to Psychology	3
		15
	Second Semester	
BIOS 105	Contemporary Biology	4
CISC 101	Introduction to Computers	3
ENGL 151R	English II (Report Writing)	3
PSYC 235	Developmental Psychopathology	3
PSYC 258	Developmental Psychology	3
		16
	Third Semester	
PSAP 250	Developmental Differences	3
PSAP 260	Counseling Individuals with Developmental Differences	3
SOCA 103	Principles of Sociology	3
_____	Elective	3
_____	Elective	3
		15
	Fourth Semester	
CMTH 215	Intercultural Communication	3
PSAP 280	Applied Psychology Experiential Learning	3
SOCA 125	Sociology of Families	3
_____	Elective	3
_____	Elective	3
		15
	Total Credits	**61**

- SPED160 and SPED175 are suggested electives for students planning to work in the school setting
- An Elective must be completed in a Writing Intensive (WI) section

Applied Quality and Standards

Business & Technology

Degree awarded: Associate in Applied Science

Program Narrative

Today's manufacturing environment is clean, fast-paced and always changing to stay competitive. Manufacturing today also requires more technical knowledge than in the past. That's why it is important to stay on top of the latest trends and methods involved in manufacturing, technology, and continuous quality improvement. For those just entering the field, it's also vital to have hands-on operating skills specific to at least one area of manufacturing.

We developed our Applied Quality and Standards program with the assistance of local manufacturing experts. Their input assures that graduates of our program are highly skilled and knowledgeable in today's manufacturing and quality assurance practices.

Graduates new to manufacturing will gain a new set of skills and knowledge qualifying them as machine operators, quality inspectors or technicians, and manufacturing engineering technicians. Existing manufacturing personnel who graduate from this program will become better qualified as technicians, auditors, supervisors and managers of Quality, manufacturing group leaders, and process technicians.

Program Features

The program focuses on providing practical industry-specific training in well-equipped manufacturing and quality assurance labs. While students study areas of Quality such as Total Quality Management, statistical process control, ISO 9000 standards, and auditing, they also learn to apply this knowledge to specific types of manufacturing through hands-on technical electives. If you have existing skills in manufacturing, you may be able to gain credit through testing to challenge the technical electives requirement.

The associate's degree program includes a series of required general education courses. These classes prepare you to assume a greater role in working with people and other departments in your organization. The well-rounded education you receive increases your potential to grow into supervisory or management positions.

The work-based internship near the end of the degree program can be carried out with your employer or with another approved organization. During your internship, you'll apply your manufacturing and quality skills and knowledge to a production or process operation, experiencing the dynamics found only in an actual organization.

If you're interested in continuing your education to the bachelor's degree level, you may transfer your credits from this program to the following programs:

- Franklin College B.S. in Applied Management (web-based)
- California University of Pennsylvania B.S. in Industrial Management (web-based)
- Penn College of Technology B.S. in Technical Management

- Penn College of Technology B.S. in Welding and Fabrication Engineering Technology

Check with your advisor for more information and options in course selection.

All courses are offered during the evening in the Fall and Spring. General education courses and most technical electives are also offered in the daytime.

Program Requirements

No special requirements are needed to apply for this program.

Contact the Admissions Office at 610-861-5500 for further information.

Program Outcomes

Graduates of the program will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Interpret international quality standards and specifications and apply them to a quality system within an organization.
- Demonstrate proficient research and computer skills in data gathering and analysis.
- Analyze and present data in an acceptable and standardized manner.
- Solve common manufacturing or service quality-related problems using both a reactive and proactive approach.
- Demonstrate competent technical writing skills.
- Demonstrate competent speaking skills when working with diverse groups.
- Demonstrate a basic framework of technical vocabulary and graphic interpretation applicable to quality technology and a specific industrial process or service.
- Demonstrate observational, integrative, and synthetic skills.
- Demonstrate the proper use and care of common mechanical metrology and calibration tools, instruments and equipment.
- Apply basic "Quality" philosophy, methodology and "statistical thinking" to the continuous quality improvement system in an organization.
- Describe the key process elements and technology commonly found in various types of manufacturing operations such as foundries, electronics, food and drug packaging, plastics molding, machining, etc. or various types of service organizations.
- Demonstrate the basic process methodology, equipment operation, and application of industry quality standards found in a specific manufacturing industry such as electronics, food and drug packaging, plastics molding, or machining or a specific service industry such as insurance, banking or health-care.
- Demonstrate proper application of mathematics to solving quality process-related problems.
- Apply costing concepts and methods to decisions in implementing design and quality related practices and technology in an organization.

Applied Quality and Standards Program

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
BUSA 114	Manufacturing Cost Control	3
CMTH 102	Speech Communication	3
ENGL 101	English I	3
MATH 140	College Algebra	3
_____	Technical Electives +	4
		16
	Second Semester	
CISC 101	Introduction to Computers	3
ENGG 117	Technical Drawings and Specifications	3
ENGG 125	Manufacturing Processes	3
ENGL 151T	English II (Technical Writing)	3
_____	Technical Electives +	4
		16
	Third Semester	
BUSA 252	Quality Management	3
QUAL 210	Statistical Quality Control	3
_____	General Education Elective	3
_____	Science Elective (SCI)	4
_____	Technical Electives +	3
		16
	Fourth Semester	
QUAL 215	Quality Assurance	3
QUAL 221G	Applied Quality Practicum	3
_____	General Education Elective	3
_____	Technical Electives +	3

_____	Elective	3
		15
	Total Credits	**63**

+ Technical Elective options: Any courses in BIOS, BIOT, CHEM, ELEC, EMEC, ENGG, or WELD.<

- For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D)
- Completion of QUAL 221G satisfies the Writing Intensive (WI) requirement for this program.

Career Potential: Quality Control Technician, Process Technician, leading to Manufacturing Supervisor, Quality Supervisor Manufacturing Engineer.

Architecture

Business & Technology

Degree awarded: Associate in Applied Science

Program Narrative

Architects and architectural technicians shape the built environment, creating homes, offices, schools and much more. Do you have a passion for creating on paper and with computers? A career in architecture or architecture-related fields could be a satisfying and rewarding profession. An associate's degree in Architecture from Northampton provides an affordable foundation for a traditional five-year degree program leading to a career as a licensed architect. It can also prepare you for work in the field upon graduation.

Northampton's program offers a mixture of academic, design and advanced computer technology coursework. You will receive a base of knowledge to broaden your perspective of the world. Our four semester design studio sequence emphasizes skills development in architectural conceptualization as well as design vocabulary and process. Supporting coursework in history, graphics and building technology mesh with your studio work to enhance your critical thinking, problem solving and communication skills. With computer technology dramatically changing the practice of architecture, Northampton's curriculum strives to stay on the leading edge of 2D and 3D technology across the curriculum. We also balance those technologies with traditional graphic and model making skills development.

Please note that senior architecture schools consider applicants from Northampton on an individual basis and have traditionally granted both full and partial credit depending on the abilities of the student and the requirements of the transfer school.

Program Features

Northampton's program is a member of the Association of Collegiate Schools of Architecture, ensuring that the program is current with movements in the field. Our faculty consists of practicing, registered architects who, as members of the American Institute of Architects (AIA), are on top of developments in both architectural education and practice.

The Architecture Department has an active chapter of the American Institute of Architecture Students (AIAS), which provides our students with leadership opportunities at the local and national level. The AIAS also offers social activities and field trips that enhance your architecture studies.

Opportunities for practical experience include a five-credit community design studio taking place in a community-wide environment. This capstone project gives students hands-on experience in the field. In addition, students who qualify may choose to complete a three credit professional internship and apply their practical office experience to their education for credit. Students will work under the direction of an employer with a professional degree in architecture. Arrangements will be made through the architecture department. Both the community design and internship learning experiences are of great value when the graduate either enters the profession or transfers to a Bachelor degree program.

"Real World Community Learning"

Northampton's architecture program offers a 5 credit capstone community design studio which takes place in a community wide environment giving you "hands-on" learning opportunities.

Professional Internship

Students who qualify may choose the option of a three credit professional internship and apply their practical office experience to their education for credit. Students will work under the direction of an employer with a professional degree in architecture. Arrangements will be made through the architecture department. Both the community design and internship learning experiences will prove to be of great value when the graduate either enters the profession or transfers to a Bachelor's degree program.

Course Scheduling

Courses are scheduled both day and evening for students who want to attend full time or part time. Although many of the required courses are offered in the evening, the complete program will require some daytime attendance.

Program Outcomes

Graduates of the program will be able to:

1. Use abstract design ideas to interpret design information while investigating alternative outcomes based on research and analysis.

2. Use a diverse range of media to think about and convey architectural ideas including writing, speaking, drawing and model making (both hand and digital media).
3. Gather, access, record and comparatively evaluate relevant design information as part of the process of investigation.
4. Examine and comprehend history and precedent and make informed choices regarding the incorporation of same into architecture and urban design projects.
5. Identify parallel and divergent ideas and traditions of architecture and urban design influenced by the social, cultural, historical and philosophical determinants of a global society.
6. Comprehend the technical aspects of design, systems, materials and principles of building structure and be able to apply that comprehension to architectural solutions.
7. Respond to site characteristics including zoning, topography, vegetation and watershed in architecture and urban design projects.
8. Prepare drawings and models illustrating and identifying the assembly of materials, systems and components for building design and structure.
   These program outcomes are based on:
   2014 Conditions for Accreditation of the National Architectural Accrediting Board
   - Part (II) - Section 1 - Student Performance - Educational Realms & Student Performance Criteria
     - Realm A: Critical Thinking and Representation
     - Realm B : Integrated Building Practices, Technical Skills and Knowledge
   - *Based on:"Teaching for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives."*

Architecture

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
ARCH 100	Architectural History I-Antiquity to 1870	3
ARCH 101	Architectural Graphics I	3
ARCH 110	Architecture Design Studio I	3
ENGL 101C	English I	3
MATH 140	College Algebra	3
		15
	Second Semester	
ARCH 121	Architectural Graphics II	3
ARCH 150	Architecture Design Studio II (Digital)	3
ARCH 155	Architectural History II-1870 to Present	3
ENGL 151*	English II *	3
MATH 145	Trigonometry	3
		15
	Third Semester	
ARCH 204	Design & Analysis of Structural Form	3
ARCH 210	Architecture Design Studio III	5
ARCH 214	Architectural Materials & Methods of Construction I	3
ARCH 215	Advanced Digital Analysis	3
CMTH 102	Speech Communication	3
		17
	Fourth Semester	
ARCH 250	Architecture Design Studio IV	5
ARCH 254	Architectural Material Methods Construction II	3
----------	General Education Elective (SIT or SSHB)	3
----------	Elective	3
		14
	Total Credits:	**61**

NOTE: ARCH 200 Interior Design Professional Internship (3 cr. optional elective) offered Fall, Spring, Summer 1 and Summer 2 semesters. Please see advisor.

*** Students have a choice of ENGL 151L (Literature option), ENGL151R (Report Writing) or ENGL 151T (Technical Writing). Contact your advisor for guidance.**

- For the General Education Elective, students must select one course from the list of approved courses in one of the following categories: Social Science: Societies and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- Completion of ENGL 151L satisfies the Diversity and Global Awareness (D) requirement for this program.
- Completion of both ARCH 210 and ARCH 250 satisfies the Writing Intensive (WI) requirement for this program.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

Career Potential: Leading to: Architect, Architectural Technician, Building Inspector, Architectural/Building Sales

NCC students have transferred to: Drexel University, Florida Atlantic University, Lehigh University, Penn State University, Temple University, University of Arizona, University of Maryland, University of Miami, University of Michigan

ARCH 200 Professional Internship (3 cr. optional elective) offered Fall, Spring, Summer1 and Summer 2 semesters. Please see advisor.

Automotive Technology

Business & Technology

Degree awarded: Associate in Applied Science;
Specialized Diploma conferred

Program Narrative

Today's vehicles are highly sophisticated, using advanced technology that the average car-owner cannot maintain. Customers need and expect qualified automotive technicians now more than ever. Because of this, job opportunities for well-trained technicians continue to grow.

NCC's program provides students with high-level technical understanding of current developments in the automotive service profession. Our program focuses on the mastery of technology as you prepare for the workplace. The two-year program is approved by GM and Chrysler, and features both classroom work and supervised experience at a sponsoring dealership or approved automotive service facility. Northampton's GM Automotive Service Educational Program (ASEP) and the Chrysler MOPAR College Automotive Program (MCAP) are both certified by the National Automotive Technician Education Foundation.

Program Features

As a student in NCC's associate's degree program you can choose among three different options: the GM ASEP, Chrysler MCAP, and global programs. The ASEP and CAP options focus on courses devoted exclusively to current GM or Chrysler vehicles. Global students may select courses which provide product specific information from either GM or Chrysler or non-product specific automotive courses. Our specialized diploma in Automotive Technology can be completed in just two semesters.

Our program requires practicums so you can apply their classroom theory in the real world. During your practicum, you will work under the guidance of a mentor at an approved sponsoring automotive service facility. The knowledge and skills gained in this setting are extremely valuable.

The cost of tuition, fees, hand tools and other expenses are the responsibility of the student; however, since students are employees of sponsoring dealerships and approved service facilities, they can earn while they learn.

View Gainful Employment information for the Automotive Technology specialized diploma.

Program Requirements

Enrollment in this program is limited, so apply early. As part of the application process, you will be required to secure a sponsor for your practicums. Assistance will be provided by the automotive staff during the application process. You must also have a valid driver's license and be prepared to purchase an entry level set of hand tools.

Program Outcomes

Upon successful completion of the Automotive Technology program, the graduate should be able to:

- Have the ability to demonstrate a positive attitude toward the efficacy of professionalism in the work place.
- Diagnose and repair mechanical systems of automotive engines; automatic transmissions and transaxles; manual drive trains and axles; suspension and steering systems; braking systems; electrical and electronic systems; heating and air conditioning systems; and engine performance systems.
- Exhibit logical thinking throughout essential areas of automotive diagnostics, using published technical information to repair a vehicle while meeting manufacturer's specifications.
- Demonstrate competence in the use of general and highly specialized tools and equipment.
- Demonstrate the ability to communicate effectively on both technical and lay levels.

Automotive Technology

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
AUTO/ASEP/AUTC 100	Automotive Fundamentals	2
AUTO/ASEP/AUTC 101	Automotive Engines	4
AUTO/ASEP/AUTC 103	Automotive Brakes	3
AUTO/ASEP/AUTC 104	Automotive Suspension & Alignment	3
AUTO/ASEP/AUTC 105	Automotive Electrical Systems	3
AUTO 106	PA Safety Inspection	1
		16
	Second Semester	
AUTO 145	Winter Practicum I	2
AUTO/ASEP/AUTC 121	Automotive Air Conditioning & Heating Systems	3
AUTO/ASEP/AUTC 125	Advanced Automotive Electronic Systems	3
CMTH 102	Speech Communication	3
ENGL 101	English I	3
MATH 103	Applications in Mathematics	3
		17
	Summer Session	
AUTO 175	Summer Practicum	4
	Third Semester	
AUTO 203G	Automotive Shop Management Practices	3
AUTO/ASEP/AUTC 211	Automotive Fuel and Emission Systems	3
AUTO/ASEP/AUTC 221	Advanced Engine Performance	3
AUTO/ASEP/AUTC 224	Advanced Automotive Studies	3
ENGL 151R	English II (Report Writing)	3
PHYS 152	Physical Science II	3
		18
	Fourth Semester	
AUTO 245	Winter Practicum II	2
AUTO/ASEP/AUTC 225	Mechanical Drive Train Systems	4
AUTO/ASEP/AUTC 226	Automatic Transmission Systems	4
GEOG 121	Environmental Sustainability	3
HUMA 121	The American Work Experience	3
		16
	Total Credits:	**71**

- ASEP are GM-specific courses and AUTC are Chrysler-specific courses.
- Completion of AUTO 230G satisfies the Writing Intensive (WI) requirement for this program.
- Computer competencies are included in various courses in this program; thus, completing the program automatically satisfies the computing requirement for this program.
- Recommended additional non-credit course: Welding for Auto Techs.
- AUTO 110, Introduction to Hybrid Vehicles, and AUTO 230, Hybrid Vehicles, are offered as electives.

Automotive Technology

Specialized Diploma

Course Code	Course Title	Credits
AUTO/ASEP/AUTC 103	Automotive Brakes	3
AUTO/ASEP/AUTC 104	Automotive Suspension & Alignment	3
AUTO/ASEP/AUTC 105	Automotive Electrical Systems	3
AUTO 106	PA Safety Inspection	1
AUTO/ASEP/AUTC 125	Advanced Automotive Electronic Systems	3
AUTO 145	Winter Practicum I	2
AUTO/ASEP/AUTC___	Automotive Electives	9
MATH ___	Mathematics Elective (QL)	3
	Total Credits:	**27**

Career Potential: Automotive Service Technician, Auto Electronics Specialist, Transmission and Drive Train Specialist, Alignment Specialist

Leading to: Service Writer, Service Manager, Shop Foreman, Specialty Technician, Specialty Repair Shop Owner

Automotive Technology Degree for ASE Certified Technicians

Business & Technology

Degree awarded: Associate in Applied Science

Program Narrative

ASE certified technicians (A1 - A8 + L1) now have a convenient and faster option for earning an associate's degree. Northampton's Automotive Technology Online program is designed for Master ASE technicians looking to advance or change their careers. If you have the qualifications, you can receive 44 credits toward your degree from your ASE certifications. The remaining 24 credits may be taken through Northampton's Online Learning division.

Program Requirements

To enter this program you must apply to the college and indicate that you are interested in the online degree option. You will need to demonstrate current ASE certifications by having ASE send your transcript directly to the college. You may also gain credit for AUTO 224 by submitting proof of OEM or aftermarket training equaling 45 to 60 hours of training.

Upon acceptance, you can start taking online courses to fulfill your degree requirements. You will need to take the college placement test in reading and writing before taking English I. Please refer to the college's web site for further information on placement testing.

For more information on the program, please contact the Director of Automotive Programs @ 610-861-5327.

Program Outcomes

Upon successful completion of the Automotive Technology program, the graduate should be able to:

- Have the ability to demonstrate a positive attitude toward the efficacy of professionalism in the work in the work place.
- Diagnose and repair mechanical systems of automotive engines; automatic tansmissions and transaxles; manual drive trains and axles; suspension and steering systems; braking systems; electrical and electronic systems; heating and air conditioning systems; and engine performance systems.
- Exhibit logical thinking throughout essential areas of automotive diagnostics, using published technical information to repair a vehicle while meeting manufacturer's specifications.
- Demonstrate competence in the use of general and highly specialized tools and equipment.
- Demonstrate the ability to communicate effectively on both technical and lay levels.

Automotive Technology Program - ASE Certified Technicians

Associate in Applied Science Degree

Course Code	Course Title	Credits
AUTO _____	Courses taken through ASE Certification	33
AUTO _____	Courses given for 2 years Work Experience	8
AUTO _____	Course given for 45-60 hrs OEM or non OEM training	3
		44
BUSA 221G	Business Communications	3
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
ENGL 151R	English II (Report Writing)	3
GEOG 121	Environmental Sustainability	3
HUMA 121	The American Work Experience	3
MATH 103	Applications in Mathematics	3
PHYS 152	Physical Science II	3
		25
	Total Credits:	**68**

- Students must complete English I (ENGL101), English II (ENGL151R) and Speech Communication (CMTH102) before taking Business Communications (BUSA221G).
- Completion of BUSA 221G satisfies the Writing Intensive (WI) requirement for this program.
- Computer competencies are included in various courses in this program; thus, completing the program automatically satisfies the computing requirement for this program.

Biological Science

Allied Health & Sciences

Degree awarded: Associate in Science

Program Narrative

Are you interested in pursuing a bachelor's degree in Biological Science? Are your career goals in the areas of medicine or scientific research? Northampton's Biological Science program is an affordable way to start. With a curriculum that parallels the first two years of most four-year programs, NCC can save you thousands of dollars on your undergraduate degree.

NCC's program can be customized to prepare you for the range of majors and fields that are based in biological sciences, including environmental sciences, genetics, molecular biology and more. By working closely with an advisor, you can choose the right electives, and stay on track with the requirements of the transfer college of your choice.

Program Features

Northampton has dual admissions agreements with a variety of colleges. These arrangements enable you to have admission to Northampton and the four-year institution you select. You will receive close advising, and, based on your performance, our agreements guarantee your easy transfer of credits. NCC also offers a transfer agreement with Pennsylvania State University-Berks/Lehigh Valley and State University of New York-College of Environmental Sciences and Forestry.

Program Requirements

We expect you to have an adequate background in chemistry and algebra. If you need to develop this background, you may take the necessary preparatory classes prior to, or during your first semester.

Program Notes

Please note that General Ecology, Organic Chemistry I, and Genetics are only offered in the Fall semester, and Organic Chemistry II is only offered in the Spring semester.

Students interested in graduate programs in Veterinary Medicine should contact Dr. Charles Rinehimer. Contact the Admissions Office at 610-861-5500 for further information.

Program Outcomes

Graduates of the program will:

- Understand fundamental concepts of Biology, which characterize the various life science fields including Botany, Environmental Science, Genetics, Cellular and Molecular Biology and Zoology.
- Demonstrate oral and written communication skills necessary for sharing discipline-specific knowledge and communicating professionally.
- Conduct scientific inquiry and research on biological science topics as they relate to science, technology and society.
- Proficiently function in laboratory and field settings, using modern scientific instrumentation, including microscopes, measuring devices, and computer technology.
- Demonstrate understanding of the fundamentals of lab safety, to ensure both personal and environmental safety.
- Understand the use of the scientific method, interpretation of scientific data, and scientific literature.
- Be prepared to transfer to a four-year Bachelor's Program or a pre-med, pre-vet, or other pre-professional program.

Biological Science

Associate in Science Degree

Course Code	Course Title	Credits
	First Semester	
BIOS 107	Biology I	4
CHEM 120	General Chemistry I	4
ENGL 101C	English I	3
----------	Mathematics Elective (QL) +	3
		14
	Second Semester	
BIOS 150	Biology II	4
CHEM 220	General Chemistry II	4
ENGL 151L	English II (Literature)	3
CMTH 102	Speech Communication	3
----------	Mathematics Elective (QL) +	3
		17
	Third Semester	
BIOS 2__	Biology Elective ++	4

CHEM 201G	Organic Chemistry I	4
----------	Electives	6
		14
	Fourth Semester	
BIOS 2__	Biology Elective ++	4
CHEM 251	Organic Chemistry II	4
----------	Electives	8
		16
	Total Credits:	**61**

+ Mathematics Elective options: MATH 140 and 145 or MATH 160 and choice of 150, 175, 176, 180, 181, 210, 211 or MATH 180 and choice of 150, 181, 210, 211. To insure transfer, electives should be selected to meet the requirements of the appropriate transfer institution.
++ Biology Electives: Students are required to take two of three Biology courses of 206, 210, 240 or 260. For students with an Environmental Science intent, BIOS 206 and 210 are recommended. For students with an Integrative Biology intent, BIOS 260 and either 206 or 210 are recommended.

- For the Electives, students must select one course from the list of approved courses in each of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT) and Social Science: Scientific Study of Human Behavior (SSHB).
- One course must be designated Diversity and Global Awareness (D).
- Completion of CHEM 201G satisfies the program-related Writing Intensive (WI) requirement. In addition, one Elective course must be taken in a Writing Intensive (WI) section.
- Computer competencies are included in various program courses. Thus, completing the program automatically satisfies the computing requirement for this program.

Career Potential: Leading to transfer degrees for careers in: Research, Teaching, Medicine, Forestry Management, Biotechnology, Pharmaceutical Technology, Environmental Studies, Veterinary Medicine

NCC students have transferred to: Cedar Crest College, East Stroudsburg University Florida Institute of Technology, Kutztown University, Millersville University, Moravian College Pennsylvania State University, Rochester Institute of Technology, Temple University, University of Colorado, West Chester University, Many others nationwide

Biotechnology

Allied Health & Sciences

Degree awarded: Associate in Applied Science

Program Narrative

Major improvements in agriculture, breakthroughs in health care, energy production, solutions to environmental challenges - biotechnology is changing our world in exciting ways. Biotech is also one of the more rapidly expanding and diverse areas of employment in today's economy. A career in a biotechnology-related field could lead you to the development of new products and processes to improve the quality of life.

NCC graduates are positioned to compete for a wide range of positions in the chemical and pharmaceutical industries, governmental institutions such as the FDA, USDA, Department of Defense, NIH, EPA, forensics laboratories, the cosmetic industry, biomedical research institutions and the expanding field of green energy.

Students entering this program should be interested in science and should have taken high school classes in biology, chemistry and algebra (or the equivalent). Students who have not taken chemistry or algebra may do so before beginning the program.

Industrial internships are considered the important part of the biotechnology program. Students are strongly encouraged to seek and apply for the internships; program coordinator will assist interested biotechnology majors in the applications process.

Program Features

Students in NCC's Biotechnology program receive a solid background in math and science and practical knowledge in biotechnology. Students also gain good laboratory and critical thinking skills that make them attractive to employers in the biotechnology and pharmaceutical industry as manufacturing or research technicians. In addition this program prepares students to transfer to a four year institution should they want to pursue a Bachelors degree in Biotechnology.

The program can be completed on a part time or full time basis.

Optional Fifth Semester for Biotechnology AAS Degree

Students in the program have the option to acquire additional skills by attending a capstone semester at Penn State focusing on nanotechnology. This optional fifth semester of study will provide students with hands-on experience using state-of-the-art equipment found in industries that apply nanotechnology. Students who are interested in pursuing this training should work closely with their advisor to ensure that they choose those electives that will best prepare them for the capstone semester.

Program Outcomes

Graduates of the program will:

- Demonstrate skills necessary to work in a typical biotechnology laboratory or biomanufacturing facility while following appropriate safety procedures and complying with the federal regulations for the industry.
- Demonstrate an understanding of biotechnological principles and concepts.
- Follow written instructions and work both independently and collaboratively on a wide variety of projects.
- Demonstrate literacy in data manipulation and analysis using computerized spreadsheets and graphing programs.
- Apply statistics to analyze the credibility of scientific results and to follow the biomanufacturing processes.
- Demonstrate the ability to communicate both orally and through written reports in an effective and efficient manner.
- Apply all the steps of the scientific method to research, design, perform, and report on a solution to a scientific or manufacturing problem.

Biotechnology

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
BIOS 107	Biology I	4
BIOT 184	Introduction to Biotechnology	4
CHEM 120	General Chemistry I	4
ENGL 101C	English I	3
MATH 140	College Algebra	3
		18
	Second Semester	
BIOS 150	Biology II	4
BIOT 185	Biotechnology Techniques	4
CHEM 220	General Chemistry II	4
ENGL 151T	English II (Technical Writing)	3
		15
	Third Semester	
BIOS 240	Microbiology	4
BIOT 190	Industrial Biotechnology	3
CHEM 201	Organic Chemistry I	4
CMTH 102	Speech Communication	3
----------	Social Science: Scientific Study of Human Behavior Elective (SSHB)+	3
		17
	Fourth Semester	
BIOT 200	Aseptic Processing	3
BIOT 202	Biotechnology Seminar	1
BIOT 220	General Biotechnology	4
MATH 150	Introductory Statistics	3
----------	Arts and Humanities Elective (AH) +	3
----------	Elective +	3
		17
	Total Credits:	**67**

***Industrial Internships are strongly recommended for students in the biotechnology program. Students are encouraged to seek internship opportunities. Program coordinator will assist students in identifying proper internship sites and the application process.**

+ One course must be designated Writing Intensive (WI) and one Diversity and Global Awareness (D).

Nanofabrication Specialization (Optional 5th Semester)

Semester at the Nanofabrication Facility at Pennsylvania State University, Main Campus

NANF 211	Materials, Safety and Equipment Overview for Nanofabrication	3
NANF 212	Basic Nanofabrication Processes	3
NANF 213	Thin Films in Nanofabrication	3
NANF 214	Lithography for Nanofabrication	3
NANF 215	Materials Modification in Nanofabrication	3
NANF 216	Characterization, Packaging, and Testing of Nanofabricated Structures	3
		18

Career Potential: Laboratory Technician, Process Supervisor, Quality Control Technician, Manufacturing Operator/Technician, Research Technician, Forensic Lab Technician, Environmental Lab Technician

Business Administration

Business & Technology

Degree awarded: Associate in Arts

Program Narrative

For practical, business-minded students, Northampton is a great way to save money while getting the first two years of a degree completed. Our Business Administration program prepares you for transfer into a four-year institution in the fields of accounting, business, economics, finance, marketing, and business administration. The program is accredited by the Accreditation Council for Business Schools and Programs (ACBSP).

By working closely with an advisor, you can carefully select your courses and ensure that all of your credits will transfer and be applicable to your ultimate degree goals. We also recommend that you refer often to the catalog of the college or university to which you plan to transfer.

Program Features

NCC's Business Administration program offers a balanced mix of liberal arts and specialized courses. Classes in accounting, business law, economics and statistics provide the foundation you'll need as you advance in the business world.

This program can be completed in the day or evening, on a full-time or part-time basis. If you are entering the Business Administration or Business Management degree programs in the evening, you can generally take most required courses during any semester, if you have the prerequisites. A few courses are not offered in the evening every semester so it's important to develop your schedule accordingly to avoid any delay in graduation.

Contact the Admissions Office at 610-861-5500 for further information.

Program Outcomes

Graduates of the program will be able to:

- Communicate ideas effectively.
- Explain basic accounting and economic principles.
- Demonstrate an understanding of basic computer applications.
- Identify ethical and legal challenges within the business environment.

Business Administration

Associate in Arts Degree

Course Code	Course Title	Credits
	First Semester	
ACCT 101	Financial Accounting I	3
CISC 101	Introduction to Computers	3
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
----------	Mathematics Elective (QL)++	3
		15
	Second Semester	
ACCT 151	Financial Accounting II	3
BUSA 152	Business Law I	3
ENGL 151L	English II (Literature)	3
----------	General Education Elective +	3
----------	General Education Elective +	3
		15
	Third Semester	
ACCT 202	Managerial Accounting	3
BUSA 201	Business Statistics I	4
ECON 201	Macroeconomics	3
----------	General Education Elective +	3
MATH-----	Mathematics Elective (QL)++	3
		16
	Fourth Semester	
BUSA 131	Principles of Marketing	3
BUSA 205	Management Fundamentals	3

ECON 251G	Microeconomics	3
----------	Science Elective (SCI) ++	4
----------	Elective +	3
		16
	Total Credits:	**62**

+ For the General Education Electives, students must select one course from the list of approved courses in Arts & Humanities (AH), one from Societies and Institutions over Time (SIT), and another from Societies and Institutions over Time (SIT) or Scientific Study of Human Behavior (SSHB).
++ The student is required to take a total of two courses in Mathematics (QL) and one in Science (SCI). Only the following Mathematics courses will count as requirements or electives for the degree: MATH 140, 165, 175, 176, 180, 181.

- Completion of ECON 251G satisfies the program-related Writing Intensive (WI) requirement. In addition, one General Education Elective must be taken in a Writing Intensive (WI) section.
- Completion of ENGL 151L satisfies the Diversity and Global Awareness (D) requirement.

The AS in Business Administration prepares you for these other areas of concentration: Accounting, Marketing, Management, Human Resource Management, Business Communications, Economics, leading to positions in Corporate and Small Business Management.

NCC students have transferred to: Bloomsburg University, DeSales University, East Stroudsburg University, Kutztown University, Moravian College, Pennsylvania State University, Temple University, West Chester University

Business Management

Business & Technology

Degree awarded: Associate in Applied Science

Program Narrative

If you're ready to get started, Northampton's Business Management program will prepare you for a career in business, government or non-profit organizations. This program is designed for those looking to enter the business world upon graduation rather than transferring to a four-year institution. Our program emphasizes the practical applications of business studies. (For those interested in pursuing a four-year degree, we recommend our Business Administration degree.) The program is accredited by the Accreditation Council for Business Schools and Programs (ACBSP).

Program Features

The program offers a strong foundation of common core course work on which to build your managerial skills. You'll also complete a capstone experience called the International Business Practice Firm, a virtual business in a state-of-the-art facility. Through this experience, you will perform various business functions (i.e., Accounting, Human Resources, Marketing/Sales, and Purchasing/Inventory Control) as the firm transacts business with students in other simulated companies in the U.S. and in other countries. This hands-on experience gives you marketable employment skills and insight into the global market economy. The International Business Practice Firm also enhances critical thinking, problem solving and communication skills.

Our Business Management associate's degree program is accredited by the Accreditation Council for Business Schools and Programs (ACBSP). As you near graduation, your instructors and the professionals in Northampton's Career Services Office can help you find employment in your area of interest.

Program Requirements

The Business Management Program contains provisions for three credits of free electives in addition to the General Education electives. This program can be completed in the day or evening, on a full-time or part-time basis. Traditional day students must take Principles of Marketing (BUSA 131) and Human Resource Management (BUSA 226) in a fall semester; Management Fundamentals (BUSA 205) is to be taken in a spring semester.

Contact the Admissions Office at 610-861-5500 for further information.

Program Outcomes

Graduates of the program will be able to:

- Demonstrate strong written and verbal communication skills necessary to work effectively with people in the business field.
- Apply general business concepts in the areas of accounting/finance, economics, management, and marketing.
- Demonstrate proficiency in current office information technology.
- Discuss ethical, moral, and legal issues associated with the professional working environment and be able to apply ethical concepts in business-like situations.
- Develop team skills in completing everyday business tasks through participation in a virtual enterprise capstone experience.

Business Management

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
BUSA 131	Principles of Marketing	3
CISC 101	Introduction to Computers	3
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
MATH___	Mathematics Elective (QL) +	3
		15
	Second Semester	
ACCT 101	Financial Accounting I	3
CISC 104	Microcomputer Applications	4
BUSA 152	Business Law I	3
BUSA 205	Management Fundamentals	3
ENGL 151L	English II (Literature)	3
		16
	Third Semester	
ACCT 160 or ACCT 202	Accounting Applications or Managerial Accounting	3
BUSA 221G	Business Communications	3
BUSA 226	Human Resources Management	3
ECON 201	Macroeconomics	3
----------	General Education Elective	3
		15
	Fourth Semester	
BUSA 211	Personal Finance	3
BUSA 260	International Business Practice Firm	3
BUSA___	Business Elective ++	3
----------	General Education Elective	3
----------	Elective	3
		15
	Total Credits:	**61**

+ Mathematics Elective options: MATH 140, 150, 160, 165, 175, 176, 180, 181
++ Business Elective options: BUSA 114, 115, 137, 141, 201, 202, 235, 252, 272, 293 (BUSA 293 - Special Studies requires permission from the department)

- For the General Education Electives, students must take two courses from at least two of the following areas: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT) or (Social Science: Scientific Study of Human Behavior (SSHB). *Note:* ECON 201 is required, so only one additional SSHB course may be used as a General Education Elective.
- One course should be designated as Diversity and Global Awareness (D).
- Completion of BUSA 221G satisfies the Writing Intensive (WI) requirement.

Career Potential: Self-Employment, Management Trainee, Entry-level Positions, leading to Corporate Management, Sales Management.

Chemistry

Allied Health & Sciences

Degree awarded: Associate in Science

Program Narrative

If you are interested in pursuing a bachelor's degree in chemistry or a career in the areas of medicine or scientific research, Northampton's Chemistry program is an affordable way to start. With a curriculum that parallels the first two years of most four-year programs, NCC can save you thousands of dollars on your undergraduate degree. By working closely with an advisor, you can choose the right electives, and stay on track with the requirements of the transfer college of your choice.

Another option some graduates have chosen is to enter the job market upon completion of their two-year Chemistry degree. NCC's program prepares you for the range of fields that are based in chemistry, including environmental sciences, manufacturing, biotechnology and more.

Program Features

Northampton has dual admissions agreements with a variety of colleges. These arrangements enable you to have admission to Northampton and the four-year institution you select. You will receive close advising, and, based on your performance, our agreements guarantee your easy transfer of credits. Courses in this program are offered primarily during the day.

Program Requirements

While there are no special admissions requirements for the Chemistry program, certain courses in the program require a background in English, algebra, and chemistry. If you are lacking background in these areas, you should acquire it during the summer preceding your first semester. Northampton's admissions and counseling staff can answer any questions or concerns you may have regarding your enrollment into this program.

Contact the Admissions Office at 610-861-5500 for further information.

Program Outcomes

Graduates of the program will:

- Demonstrate the ability to solve problems and explain chemical processes.
- Apply scientific principles and skills in conducting experiments, and in the use of instrumentation and analysis of results.
- Present research in acceptable written and oral format using scientific literature and computer aided analysis
- Demonstrate the ability to work successfully in independent and collaborative settings.
- Demonstrate best practice of safety and laboratory techniques and procedures.

Chemistry

Associate in Science Degree

Course Code	Course Title	Credits
	First Semester	
CHEM 120	General Chemistry I*	4
CMTH 102	Speech Communication	3
ENGL 101C	English 1	3
MATH 180	Calculus I**	4
		14
	Second Semester	
CHEM 220	General Chemistry II	4
ENGL 151L	English II (Literature)	3
MATH 181	Calculus II	4
----------	General Education Elective	3
		14
	Third Semester	
CHEM 201G	Organic Chemistry I	4
PHYS 215	Physics for Science and Engineering I	5
----------	General Education Elective	3
----------	General Education Elective	3
		15
	Fourth Semester	
CHEM 251	Organic Chemistry II	4
PHYS 225	Physics for Science and Engineering II	5
----------	Electives	8
		17
	Total Credits:	**60**

* Students that are not CHEM 120 ready for their first semester should take CHEM 011 first.

** Students that are not MATH 180 ready for the first semester should take MATH 160 or 140 first. It is highly recommended that all students start their math sequence in the first semester

- For the General Education Electives, students must select one course from the list of approved courses in each of the following categories: Arts and Humanities (AH); Social Science: Societies and Institutions over Time (SIT) and Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Completion of CHEM 201G satisfies the program-related Writing Intensive (WI) requirement. In addition, one General Education Elective must be taken in a Writing Intensive (WI) section.
- Computer competencies are included in various program courses, specifically CHEM 120, 220, 210G, and 251. Thus, completing the program automatically satisfies the computing requirement for this program.

NCC students have transferred to: Cedar Crest College, East Stroudsburg University, Kutztown University, Lafayette College, Lehigh University, Lock Haven University, Penn State University, University of Hawaii
The A.S. in CHEMISTRY prepares you for these other areas of study: Medical School, Biotechnology, and a multitude of chemistry related industries.

Communication Design

Humanities & Social Sciences

Degree awarded: Associate in Applied Science
Two options: New Media and Print/Web

Program Narrative

Communication design is a dynamic and growing profession in the media marketplace. Development in new Internet technology and capabilities, as well as the proliferation of PDAs, require people with interactive design skills and knowledge to create content for these new communication networks. The Communication Design program will assist you in developing the creative, conceptual and technical skills necessary to meet the challenge of digital, print, and social media marketplaces and will offer the opportunity to gain employment in the field, or to transfer to a four-year institution. You'll be prepared to work within the social networking world of Twitter and Facebook; you'll know how to launch ideas and apps through smart phones and tablets.

The program offers students an opportunity to select a 'specialized track' in their second year of studies - either Print/Web or New Media.

Hands-On Learning

Northampton's Communication Design program offers you a well-balanced education through classroom and computer lab learning experiences under the supervision of talented and experienced instructors, in the College's state-of-the-art facilities. This education will be critical when you enter the workforce or transfer to baccalaureate degree programs.

Who should apply for this program?

- High school graduates.
- College students.
- Individuals presently employed in the communications field seeking an opportunity to upgrade current skills and knowledge.
- Individuals considering a career change.

Job Opportunities

As a graduate of the Communication Design you can expect to find employment as a graphic designer, computer graphics artist, free-lance designer, web designer, or new media designer with such employers as advertising agencies, graphic design studios, newspapers, publication companies, in-house corporate communication departments, to name a few.

Program Requirements

Applicants to the program should contact the Admissions Office at 610-861-5500 for general information on applying to the College. You can visit the Art Department web site for specific details on the Communication Design program and to view examples of student work. The URL is http://art.northampton.edu.
**Program course of studies offered only in the day.*

Program Outcomes

Graduates of the program will:

- Recognize and use technical and aesthetic terminology of communication design.
- Create work that exhibits proficiency in both design and technical aspects of new media including print, web, motion design, and video game design.
- Demonstrate an understanding of the design industries' best-practices and theories that reflect current and historical cultural trends.
- Understand basic principles and practices of marketing and advertising.
- Create a professional design portfolio (hard copy and web) and professional identity kit.
- Be prepared for an entry-level position in communication design.

Communication Design - New Media Option

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
ARTA 101	Art History Survey	3
ARTA 107	Drawing I	3
ARTA 111	Principles of 2-D Design and Color	3

ARTA 170	Computer Graphics	4
ENGL 101C	English I	3
		16
	Second Semester	
ARTA 110	Principles of 3-D Design	3
ARTA 124	Drawing II	3
ARTA 130	Introduction to Web Site Design	3
ARTA 180	Digital Design and Typography I	3
ENGL 151L	English II (Literature)	3
		15
	Third Semester	
ARTA 131	Intro to 3-D Computer Animation	3
ARTA 132	Web Animation	3
ARTA 181	Digital Design and Typography II	3
ARTA 230	New Media Theory and Practice	3
CMTH 102	Speech Communication	3
----------	Elective +	3
		18
	Fourth Semester	
ARTA 133	Advanced 3-D Computer Animation	3
ARTA 136	Interactive Design	3
ARTA 231	New Media Production	3
ARTA 285	Portfolio Workshop	3
----------	Social Science: Societies and Institutions over Time Elective (SIT)	3
----------	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
		18
	Total Credits:	**67**

+ Suggested Elective: ARTA 240, 282.

- One course should be designated as Diversity and Global Awareness (D)
- Students must take one Social Science Elective (SIT or SSHB) in a Writing Intensive (WI) section.
- Computer competencies and mathematics outcomes are included in various courses in this program. Thus, completing the program automatically satisfies the computing and mathematics requirements for this program.

NOTE: This program requires attendance of day classes and can not be completed taking only evening classes.

Communication Design - Print/Web Option

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
ARTA 101	Art History Survey	3
ARTA 107	Drawing I	3
ARTA 111	Principles of 2-D Design and Color	3
ARTA 170	Computer Graphics	4
ENGL 101C	English I	3
		16
	Second Semester	
ARTA 110	Principles of 3-D Design	3
ARTA 124	Drawing II	3
ARTA 130	Introduction to Web Site Design	3
ARTA 180	Digital Design and Typography I	3
ENGL 151L	English II (Literature)	3
		15
	Third Semester	
ARTA 132	Web Animation	3
ARTA 181	Digital Design and Typography II	3
ARTA 190	Creative Designs	3
ARTA 240	Advanced Web Site Design	3
ARTA 282	Digital Photography	3
		15
	Fourth Semester	
ARTA 210 or	Package Design or	3/4
CISC 128 or	Client-Side Scripting or Mobile Development	

ARTA 208

ARTA 285	Portfolio Workshop	3
CMTH 102	Speech Communication	3
----------	Social Science: Societies and Institutions over Time Elective (SIT)	3
----------	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
----------	Elective +	3
		18/19
	Total Credits:	**64/65**

+ Suggested Elective: ARTA 131, 136, 164 or 256.

- One course should be designated as Diversity and Global Awareness (D).
- Students must take one Social Science Elective (SIT or SSHB) in a Writing Intensive (WI) section.
- Computer competencies and mathematics outcomes are included in various courses in this program. Thus, completing the program automatically satisfies the computing and mathematics requirements for this program.

NOTE: This program requires attendance of day classes and can not be completed taking only evening classes.

Career Potential: Assistant Art Director, Computer Graphic Artist, Newspaper/Magazine layout, Package Design, Pre-Press Technician, Illustrator, Web Designer, Corporate Communications Designer

NCC Communication Design graduates have transferred to:

- Cedar Crest College
- Kuztown University
- Moravian College
- School of Visual (NYC)
- Pratt Institute (NYC)
- Tyler School of Art at Temple University (Philadelphia)
- University of the Arts (Philadelphia)
- Savannah College of Art and Design (Savannah, Georgia)
- Ringling College of Art and Design (Sarasota, Florida)
- Academy of Art University (San Francisco, CA)
- Rochester Institute of Technology (Rochester, NY)

Communication Studies

Humanities & Social Sciences

Degree awarded: Associate in Arts

Program Narrative

Advertising, politics, journalism, public relations - a career in any of these diverse fields can be exciting and fulfilling. And it can start with a degree in Communications Studies from Northampton.

Northampton's Communications Studies program offers courses that are commonly taken during the first two years of a bachelor's degree in the field. Working closely with your advisor, you can plan a schedule that will prepare you for entry to a four-year college.

With a BA, you can look forward to employment opportunities in a wide range of areas, including health care, the performing arts, education, the media, radio and TV broadcasting and more. Even if you don't plan to go into a specific communications-related field, a communications degree will help you be more versatile and flexible in your work. You may also find that you can change career paths with ease.

Our program is available at NCC's Bethlehem and Monroe campuses. Courses are primarily offered in the daytime.

Program Features

Our program provides a well-rounded background in communication and general education that will prepare you to transfer to a four-year university. In addition to the general education core requirements, the program requires 12 hours of communication studies courses. To suit your future plans, a variety of electives in the communications field allow you to customize your studies in key areas such as mass communications, **technology,** business, and the performing arts. Finally, the program requires you to take specific courses in fields that have impacted communication studies, such as sociology and psychology.

Program Outcomes

Graduates of the program will:

- Transfer to a four-year college or university.
- Demonstrate a clear understanding of, and ability to think critically about, communication in theory and practice.
- Demonstrate effective use of communication skills and experience to be an effective group member and/or leader.
- Adapt communication skills to a variety of audiences and contexts.
- Communicate effectively within a culturally diverse society.

Communication Studies

Associate in Arts Degree

Course Code	Course Title	Credits
	First Semester	
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
PSYC 103	Introduction to Psychology	3
MATH___	Mathematics Elective (QL)	3
----------	Elective +	3
		15
	Second Semester	
CMTH 214	Interpersonal Communication	3
ENGL 151L	English II (Literature)	3
SOCA 103G	Principles of Sociology	3
----------	Science Elective (SCI)	4
----------	Elective +	3
		16
	Third Semester	
CMTH 215	Intercultural Communication	3
CMTH 231	Small Group Communication	3
----------	Social Science: Society and Institutions over Time Elective (SIT)	3
----------	Arts and Humanities Elective (AH)	3
----------	Elective +	3
		15
	Fourth Semester	
CMTH 230G	Introduction to Communication Theory	3
----------	Social Science: Society and Institutions over Time Elective (SIT)	3
----------	Mathematics (QL) or Science (SCI) Elective	3/4
----------	Electives +	6
		15/16
	Total Credits:	**61/62**

+Electives must be selected from those courses which are AA eligible or those below:

Mass Communication

- CMTH 104 - Mass Media and Society
- CMTH 126 - The Communication Arts
- CMTH 220 - Introduction to Film
- CMTH 225G - Scriptwriting
- JOUR 101 - Journalism and Society
- JOUR 102 - News Editing
- JOUR 103 - Newswriting
- JOUR 203 - Writing for Public Relations

Business

- BUSA 101 - Introduction to Business
- BUSA 115 - Introduction to International Business
- BUSA 131 - Principles of Marketing
- BUSA 137 - Principles of Selling
- BUSA 152 - Business Law I

Performing Arts

- CMTH105 - Public Speaking
- CMTH 110 - Introduction to the Theatre
- CMTH 111 - Acting I
- CMTH 212 - Acting II
- CMTH/ENGL 211G - Plays: Classical to Contemporary
- CMTH 206 - Directing
- CMTH 189 - Stage Voice and Movement

Communication Technology

- ARTA 130 - Introduction to Web Site Design

- ARTA 170 - Computer Graphics
- ARTA 171 - Desktop Publishing
- CMTH 115 - Technical Theatre
- CMTH 117 - Stagecraft
- CMTH 180 - Multimedia Production
- CMTH 182 - Advanced Multimedia Production

Career Potential: Media, Advertising, Performing Arts Health Care, Politics Radio-TV/Broadcasting, Public Relations, Business/Marketing, Social/Human Services, Education, Journalism

Computer Aided Design (CAD)

Business & Technology

Degree awarded: Associate in Applied Science

Program Narrative

Computer Aided Design is the state-of-the-art technology in fields such as industrial design and architecture. Northampton's Computer Aided Design program integrates the specialized knowledge and skills of design with the power, speed and diversity of computers using state-of-the-industry CAD software. This program will prepare you for a variety of positions or offer you valuable training to stay competitive if you are already employed within the field.

As a student in our program, you will learn computer aided design layout and 3D solid modeling definition. You will also gain the knowledge of design and drafting needed for multiple disciplines, including mechanical, civil, architectural and electrical engineering and design.

Most major courses are offered during the day in the fall and spring. All other courses are offered both day and evening.

Program Features

Courses offer a mix of classroom lecture and hands-on experience in the Computer Aided Design Lab. This well-rounded education will prepare you for a position in today's engineering office environment where computer skills are essential.

As a graduate of Northampton's program, you will be qualified for employment as an entry-level mechanical designer, design drafter, CAD operator or CAD Technician. Professionals in Northampton's placement and counseling offices, as well as instructors within the program, will assist you in meeting your employment and career goals.

If you are a student from an area vocational-technical school, you may receive advanced placement for work completed at the vocational-technical school. If you have had previous related experience, you may challenge some of the introductory courses such as engineering graphics, and receive credit.

Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes

Graduates of the program will be able to:

- Demonstrate an ability to work independently and apply interpersonal and technical skills to solve problems.
- Demonstrate proficient drafting and computer skills in using several current industrial standard CAD softwares to create mechanical designs for product parts, assemblies and system configurations, apply appropriate drafting standards, dimensioning and tolerancing for same.
- Demonstrate competent technical writing skills.
- Demonstrate competent speaking skills when working with diverse groups.
- Demonstrate competent technical vocabulary and 2D and 3D CAD drafting and modeling skills applicable to a variety of engineering disciplines, including mechanical, electrical, architectural, and civil engineering.

Computer Aided Design

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CISC 101	Introduction to Computers	3
ENGG 100	Engineering Graphics	3
ENGG 115	Computer Aided Design I	3
ENGL 101C	English I	3
MATH 140	College Algebra	3
		15
	Second Semester	
ENGG 125	Manufacturing Processes	3
ENGG 261	Computer Aided Design II	3
ENGL 151T	English II (Technical Writing)	3

MATH 145	Trigonometry	3
ENGG 205	Parametric Modeling	3
		15
	Third Semester	
CMTH 102	Speech Communication	3
EMEC 101	Electrical Fundamentals	3
ENGG 220	Design Project	3
ENGG 262	Computer Aided Design III	3
PHYS 101	Physics I	4
		16
	Fourth Semester	
ENGG 230	Team Project	3
PHYS 151	Physics II	4
----------	General Education Elective (AH or SIT)	3
----------	General Education Elective (SSHB)	3
----------	Elective	3
		16
	Total Credits:	**62**

- For the General Education Elective, students must select two courses: one from Arts & Humanities (AH) or Social Science: Society and Institutions over Time (SIT), and one from Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Completion of both ENGG 220 and 230 satisfies the Writing Intensive (WI) requirement for this program.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirements for this program.

Career Potential: Mechanical Designer, Design Draftsperson, CAD Technician, CAD Operator, Manufacturing Drafting Technician

Computer Forensics Analyst: HERO

Humanities and Social Sciences

Specialized Diploma conferred

Program Narrative (SD)

Child pornography is a global scourge that plagues every culture and region. There is a growing need for highly effective cyber investigators to identify and to bring to trial Internet child exploiters. The H.E.R.O. program, designed to meet the need for these investigators, is delivered through the Department of Homeland Security and NCC. The program is primarily restricted to cohorts of students selected by NCC and DHS. Most students are Special Operations veterans specifically identified for admission to the program.*

Program Features

The H.E.R.O. Program is a forty-week cohort program. Before entering the cohort, students must obtain introductory training or demonstrate prior learning, typically facilitated by the DHS. The training obtained through the Department of Homeland Security includes intensive computer forensics training leading to certifications in CompTIA A+, AccessData Certified Examiners (ACE) and EnCase 1. It also includes an overview of the child sexual abuse problem, specifically covering child abuse and trauma, child sexual abuse prevention, prosecution of child sex offenders, and coping with the stresses of working in the field of child sexual exploitation prevention.

Students admitted to the program will spend 10 months in NCC-monitored internships assisting Homeland Security Investigations (HSI) special agents with criminal cases and prosecutions. Duties may include processing digital media and forensic analysis. Interns will assist investigators to identify high-value targets, to locate child victims, and to prepare detailed reports for prosecutions.

View Gainful Employment Information on the Computer Forensics Analyst: HERO Specialized Diploma

Program Outcomes

- Demonstrate computer forensic skills
- Be able to track down on-line predators using legally, ethically and constitutionally sound techniques.
- Demonstrate principles and methods of investigation, including the role of the prosecutor, the function of the courts, and sentencing, corrections, probation and parole processes.
- Manage cases effectively, professionally and efficiently to support successful prosecutions
- Assist investigators to identify high-value targets and locate child victim and prepare detailed reports.

Program Overview:

Course Code	Course Title	Credits
	Session One	
CJST 111	American Legal System	3
CFAN 210	Computer Forensics Analyst: HERO Internship I	4
		7
	Session Two	
CJST 115	Criminal Law	3
CFAN 220	Computer Forensics Analyst: HERO Internship II	4
		7
	Session Three	
CJST 135	Law Enforcement and Investigative Techniques	3
CFAN 230	Computer Forensics Analyst: HERO Internship III	4
		7
	Session Four	
CJST 145	Criminal Justice Ethics	3
CFAN 240	Computer Forensics Analyst: HERO Internship IV	4
		7
	Total Credits:	**28**

- All sections of courses in this program will be restricted so that only students admitted to the program can register for them.
- ENGL 101, English I, and CJST 101, Introduction to Criminal Justice, will be waived for all students selected for this program.

*Enrollment in DHS (PROTECT and IT) training is the primary pathway for admission to this program. Students may apply for admission to the program by demonstrating the same competencies and clearances that are facilitated by the DHS pre-admission training program.

1. Academic coursework equivalent to SOCA 103 (Introduction to Sociology), SOCA 150 (Deviance) and SOCA 204 (Social Problems)
2. Three completed computer certifications
    - *CompTIA A+* (or ELEC 130, PC Support and Troubleshooting)
    - *AccessData Certified Examiners (ACE)*
    - *EnCase 1*
3. Have identified an appropriate internship at an investigative agency or organization and possess an active, federally-granted 'SECRET' level Security clearance from a sponsoring agency or organization.

Computer Information Systems

Business & Technology

Degree awarded: Associate in Science

Program Narrative

Northampton's associate's degree in Computer Information Systems parallels the first two years of most information systems bachelor's degree programs. By working closely with your advisor, you can earn transferable credits that will allow you to enter a four-year institution with the first two years of course material completed. You'll save thousands of dollars on your education in the process.

Our curriculum includes computer programming, introductory computer architecture, and general education courses. A computer science elective will allow you to expand your knowledge in the area of operating systems or microcomputers.

Program Features

Depending on your plans and available time, you can complete this program in two years of full-time study with day and evening classes, or in three years of part-time evening study.

Contact the Admissions Office at 610-861-5500 for further information.

Program Outcomes

Graduates of the program will:

- Possess a fundamental and comprehensive understanding of the current field of computing upon which future growth within the field can be realized.
- Be equipped with computer competencies necessary to compete in the business world.
- Use critical thinking to evaluate computing problems and explore options for their solution.
- Apply effective approaches for problem solving and data modeling.
- Solve problems related to business computing and implement these solutions.
- Possess an awareness of the ethical concerns of computing professionals.

Computer Information Systems

Associate in Science Degree

Course Code	Course Title	Credits
	First Semester	
CISC 115	Computer Science I	4
ENGL 101C	English I	3
MATH___	Mathematics Elective (QL) +	3
----------	Social Science: Society and Institutions over Time Elective (SIT)	3
----------	Elective	3
		16
	Second Semester	
CISC 125	Computer Science II	4
CMTH 102	Speech Communication	3
ENGL 151L	English II (Literature)	3
MATH 165 or	Applied Calculus or	3/4
MATH 180	Calculus I	
----------	Elective	3
		16/17
	Third Semester	
CISC 230	Data Structures & Algorithm Analysis	4
----------	Science Elective (SCI)	4
----------	Arts and Humanities Elective (AH)	3
----------	Elective	3
		14
	Fourth Semester	
CISC 225	Computer Organization	4
CISC___	CISC Elective ++	3
----------	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
----------	Electives	6
		16
	Total Credits:	**62/63**

+ Mathematics Elective options: MATH 140, 145, 160, 175, 176, 181, 210, 211
++ CISC Elective options: CISC 104, 270

- The General Education Electives specified above must be selected from the list of approved courses in each of the categories: Arts and Humanities (AH); Social Science: Society and Institutions over Time (SIT) and Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Two courses must be taken in Writing Intensive (WI) sections. One must be selected from among the General Education Electives; the second must be selected from: PHIL 111G, PHIL 202G, or PSYC 103G.
- All Electives must be chosen from the list of courses which are applicable to AA and AS degrees, and should be chosen with transferability in mind.

Career Potential: Systems Manager

NCC students have transferred to: DeSales University, East Stroudsburg University, Muhlenberg College, Rutgers University, Temple University, Pennsylvania State University, Millersville University

Computer Information Technology: Administration

Business & Technology

Degree awarded: Associate in Applied Science

Program Narrative

With every aspect of our lives dependent on computers and information technology, there's a continuing demand for the professionals who can set up and manage computers, computer peripherals and local area networks (LAN). Northampton's Computer Administration program helps meet that demand by producing graduates who have the latest knowledge and hands-on skills. Graduates of the program go well beyond industry certification standards (CompTIA, Microsoft, etc.) in their ability to solve computer related problems effectively, minimizing downtime in the organization. Some of the jobs for which you will be prepared include computer technician, LAN technician, computer administrator, network administrator, computer field service technician, computer helpdesk representative, and technical sales consultant.

Program Features

Courses in circuit analysis and electricity provide the fundamental knowledge of electronic concepts. Courses in computer applications and operating systems improve your familiarity with using the computer and operating systems. Building upon that foundation, students learn the hows and whys of equipment selection, installation techniques, testing, and repair and upgrade methods of the latest computer and network technology. Coursework includes computer troubleshooting and repair, networking, wireless, Windows Server and Linux administration. Industry-experienced instructors teach effective troubleshooting and problem solving. Students carry out lab work, using the latest equipment to keep you current and job-ready. In addition to major courses, our general education courses are an investment in your growth. These required courses improve your ability to communicate, relate to other people and cultures, and solve fundamental problems. By enrolling in a combination of day and evening courses, full-time students can complete the degree requirements in 2 years. Because the full-time program is accelerated, it is also intensive. Full-time students are advised to prepare to commit the extra time and effort needed to graduate in 24 months. All course-work is provided during the evening for part-time students. Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes

Graduates of the program will:

- Describe network topologies and the TCP/IP protocol suite
- Use effective communication and customer service skills
- Apply industry standards to plan technology solutions
- Deploy and support PC operating systems
- Install and configure network operating systems & LAN network components
- Apply critical thinking skills to troubleshooting and repairing hardware and software systems

Computer Information Technology: Administration

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CISC100	Computer Technology I	4
CISC136	PC Support and Troubleshooting	4
CISC137	Introduction to Networking Hardware	2
ELEC101	DC/AC Circuit Analysis	4
ENGL101	English I	3
		17
	Second Semester	
CISC105	Desktop Operating Systems	4
CISC251	Network Administration and Maintenance	3
CISC254	Windows Server Administration	3
CMTH102	Speech Communication	3
ENGL151R	English II (Report Writing)	3
		16
	Third Semester	
BUSA221G	Business Communication	3
CISC255	Server II	3
MATH___	Mathematics Elective (QL) ++	3
_____	General Education Elective	3
_____	Technical Elective +	3/4
		15/16
	Fourth Semester	
CISC186	Linux Administration	3
_____	General Education Elective	3
_____	General Education Elective	3
_____	Elective	3
		12
	Total Credits	**60/61**

+ Technical Elective options: CISC 115, 128, 265, 278; ELEC 126, 151
++ Mathematics Elective (QL) options: MATH 103, 120, 140, 145, 150, 160, 165, 175, 176, 180, 181, 210, 211

- For the General Education Electives, students must choose three courses from at least two of the following areas: Arts & Humanities (AH); Social Science: Society and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).

Computer Information Technology: Application Development

Business & Technology

Degree awarded: Associate in Applied Science

Northampton's Computer Information Technology program prepares you for employment upon graduation. The first year of the program is designed to provide a strong foundation in basic PC applications, operating systems and client-side scripting. You can then choose from several options for specialization, depending upon your area of interest.

The associate's degree in Computer Information Technology may be completed in two years of full-time study with day and evening classes, or in three or four years of part-time study. If you wish, you can also complete multiple specializations. For example a student can complete both the networking and security options. Doing so will add an additional one year of full time study. In this example, a student will finish with two associate's degrees. The program also offers a specialized diploma for those students who may already have college degrees but are now seeking to retrain for the Information Technology workforce.

Program Narrative

The Application Development option provides the educational foundation you need to build proficiency with computer equipment, operating systems, productivity software, and programming languages, as well as skills necessary for web development such as client-side and server-side scripting and web server administration. The first year of the program is designed to provide a strong foundation in basic PC applications, operating systems and client-side scripting. In the second year you will learn additional languages, server-side scripting, web server administration and database systems. In addition, the second year of study includes object-oriented programming and development of Windows applications.

Completion of this program prepares you for entry-level web developer, programmer and database programmer positions. Depending on your plans and available time, you can complete this program in two years of full-time study with day and evening classes, or in three or four years of part-time study.

Program Outcomes

Graduates of the program will:

- Gain fundamental and comprehensive understanding of the current field of computing upon which future growth within the field can be realized.
- Gain computer competencies necessary to compete in the business world.
- Use critical thinking to evaluate computing problems and explore options for their solutions.
- Use effective approaches for problem solving and data modeling.
- Gain experience in solving problems related to business computing and implementing these solutions.
- Develop awareness of the ethical concerns of computing professionals.

Computer Information Technology: Application Development

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CISC 100	Computer Technology I	4
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
MATH___	Mathematics Elective (QL) +	3
----------	General Education Elective	3
		16
	Second Semester	
CISC 104	Microcomputer Applications	4
CISC 105	Microcomputer Operating Systems	4
CISC 128	Client-side Scripting	4
ENGL 151*	English II *	3
		15
	Third Semester	
BUSA 221G	Business Communications	3
CISC 158	Server-side Scripting	4
CISC 270	Data Base Systems	4
CISC 278	Web Server Administration	4
----------	General Education Elective	3
		18
	Fourth Semester	
CISC 208	Mobile Development	4
CISC 150	Object-Oriented Programming	4

----------	General Education Elective	3
----------	Elective	3
		14
	Total Credits:	**63**

* Students have a choice of ENGL 151L (Literature option), ENGL151R (Report Writing) or ENGL 151T (Technical Writing). Contact your advisor for guidance.

+ Mathematics Elective options: MATH 140, 145, 150, 160, 165, 175, 176, 180, 181, 202, 210, 211

- For the General Education Electives, students must take three courses from at least two of the following areas: Arts & Humanities (AH); Social Science: Society and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Completion of BUSA 221G satisfies the Writing Intensive (WI) requirement.

Career Potential: Entry Level Programmer, Entry Level Database Programmer, Software Developer, Web Developer, Web Administrator

Computer Information Technology: Application/Web Programming

Business & Technology

Specialized diploma conferred

Northampton's Computer Information Technology program prepares you for employment upon graduation. The first year of the program is designed to provide a strong foundation in basic PC applications, operating systems and client-side scripting. You can then choose from several options for specialization, depending upon your area of interest.

The associate's degree in Computer Information Technology may be completed in two years of full-time study with day and evening classes, or in three or four years of part-time study. If you wish, you can also complete multiple specializations. For example a student can complete both the networking and security options. Doing so will add an additional one year of full time study. In this example, a student will finish with two associate's degrees. The program also offers a specialized diploma for those students who may already have college degrees but are now seeking to retrain for the Information Technology workforce.

View Gainful Employment information on the Computer Information Technology: Application/Web Programming specialized diploma.

Program Narrative

A specialized diploma in Application/Web Programming is an excellent option for students interested in obtaining the skills needed for a career in web and application development without completing a full associate's degree. It is an ideal solution for those with a degree wanting to update their skills or change careers. This program presents a broad range of courses which will position the holder for entry level jobs in programming for the PC, the Web, or mobile devices as well as database management. Application/Web Programming Specialized Diploma is intended for part-time study.

Program Outcomes

Graduates of the program will:

- Gain fundamental and comprehensive understanding of the current field of computing upon which future growth within the field can be realized.
- Gain computer competencies necessary to compete in the business world.
- Use critical thinking to evaluate computing problems and explore options for their solutions.
- Use effective approaches for problem solving and data modeling.
- Gain experience in solving problems related to business computing and implementing these solutions.
- Develop awareness of the ethical concerns of computing professionals.

Computer Information Technology: Application/Web Programming Option

Specialized Diploma

Course Code	Course Title	Credits
CISC 100	Computer Technology I	4
CISC 128	Client-side Scripting	4
CISC 150	Object-Oriented Programming	4
CISC 158	Server-side Scripting	4
CISC 208	Mobile Development	4
CISC 270	Data Base Systems	4
	Total Credits:	**24**

Career Potential: Completion of this specialized diploma prepares you for the positions of entry-level programmer and database programmer.

Computer Information Technology: Networking

Business & Technology

Degree awarded: Associate in Applied Science

Northampton's Computer Information Technology program prepares you for employment upon graduation. The first year of the program is designed to provide a strong foundation in basic PC applications, operating systems and client-side scripting. You can then choose from several options for specialization, depending upon your area of interest.

The associate's degree in Computer Information Technology may be completed in two years of full-time study with day and evening classes, or in three or four years of part-time study. If you wish, you can also complete multiple specializations. For example a student can complete both the networking and security options. Doing so will add an additional one year of full time study. In this example, a student will finish with two associate's degrees. The program also offers a specialized diploma for those students who may already have college degrees but are now seeking to retrain for the Information Technology workforce.

Program Narrative

As with the other Computer Information Technology degrees at Northampton, the first year of this program is designed to provide a strong foundation in basic PC applications, operating systems, and considerable microcomputer experience. In the second year of the program, you will focus on networking courses that teach you to repair, maintain, and administer state-of-the-art network hardware and operating systems along with the applications utilized by these systems.

Upon completion of the Computer Information Technology Program-Networking Option, you will be prepared to gain employment as a PC and network systems technician, network technician, or network administrator. Graduates of the program will be prepared to pass the tests required to obtain the Cisco Certified Networking Associate (CCNA), Net+ Certification, NOVELL Certified Netware Administrator (CNA) (if CISC 262 is taken), the A+ PC Support Certification, Microsoft MCP and/or MCSA certification, and the security and certification.

Depending on your plans and available time, you can complete this program in two years of full-time study with day and evening classes, or in three years of part-time evening study.

Program Outcomes

Graduates of the program will:

- Gain fundamental and comprehensive understanding of the current field of computing upon which future growth within the field can be realized.
- Gain computer competencies necessary to compete in the business world.
- Use critical thinking to evaluate computing problems and explore options for their solutions.
- Use effective approaches for problem solving and data modeling.
- Gain experience in solving problems related to business computing and implementing these solutions.
- Develop awareness of the ethical concerns of computing professionals.

Computer Information Technology: Networking Option

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CISC 100	Computer Technology I	4
CISC 231	Data Communication and LANs (CCENT I) +	4
CISC 136	PC Support and Troubleshooting	4
CISC 137	Introduction to Networking Hardware	2
ENGL 101	English I	3
		17
	Second Semester	
CISC 105	Microcomputer Operating Systems	4
CISC 267	Routing and Switching Essentials (CCENT 2)+	4
CMTH 102	Speech Communication	3
ENGL 151T	English II (Technical Writing)	3
CISC 254	Server I	3
		17
	Third Semester	
BUSA 221G	Business Communications	3
CISC 265	Windows Server Administration	4
CISC 271	Intermediate Routing & Switching, Interconnectivity and Troubleshooting (CCNA R&S)+	4
MATH___	Mathematics Elective (QL) ++	3
----------	General Education Elective	3
		17
	Fourth Semester	
CISC 272	Building Scalable Internetworks (CCNP - Route)+	3

----------	CISC or ELEC Elective +++	3/4
----------	General Education Elective	3
----------	General Education Elective	3
----------	Elective	3
		15/16
	Total Credits:	**66/67**

+ The Cisco Networking Academy Program courses must be taken in sequential order (as indicated).
++ Mathematics Elective options: MATH 140, 145, 150, 160, 165, 175, 176, 180, 181, 202, 210, 211
+++ Any CISC or ELEC elective may be taken, but see an adviser for specific certification goals.

- For the General Education Electives, students must take three courses from at least two of the following areas: Arts & Humanities (AH); Social Science: Society and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Completion of BUSA 221G satisfies the Writing Intensive (WI) requirement.

Career Potential: PC Technician, Network Systems Technician, Network Administrator

Computer Information Technology: Computer Security

Business & Technology

Degree awarded: Associate in Applied Science

Northampton's Computer Information Technology program prepares you for employment upon graduation. The first year of the program is designed to provide a strong foundation in basic PC applications, operating systems and client-side scripting. You can then choose from several options for specialization, depending upon your area of interest.

The associate's degree in Computer Information Technology may be completed in two years of full-time study with day and evening classes, or in three or four years of part-time study. If you wish, you can also complete multiple specializations. For example a student can complete both the networking and security options. Doing so will add an additional one year of full time study. In this example, a student will finish with two associate's degrees.

Program Narrative

As with the other Computer Information Technology programs at Northampton, the first year of the program is designed to provide a strong foundation of basic PC applications, client operating systems, and the basics of computer networking. In the second year you will focus on the core of computer and network security. Topics include the Security+ and Server+ curriculum, Law and Ethics, and a course in which you will build a number of secure systems and have them tested by your peers.

Completion of the Computer Information Technology program - Security Option, prepares you for an entry-level position as an Information Assurance Specialist, Security Administrator, Security Technologist, or similar.

Program Outcomes

Graduates of the program will:

- Gain fundamental and comprehensive understanding of the current field of computing upon which future growth within the field can be realized.
- Gain computer competencies necessary to compete in the business world.
- Use critical thinking to evaluate computing problems and explore options for their solutions.
- Use effective approaches for problem solving and data modeling.
- Gain experience in solving problems related to business computing and implementing these solutions.
- Develop awareness of the ethical concerns of computing professionals.

Computer Information Technology: Security Option

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CISC 100	Computer Technology I	4
CISC 231	Data Communications and LANs (CCENT)	4
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
		14
	Second Semester	
CISC 105	Microcomputer Operating Systems	4
CISC 186	Linux Administration	3
ENGL 151T	English II (Tech Writing)	3
MATH ___	Mathematics Elective (QL) +	3
	Social Science: Society and Institutions over Time Elective (SIT) ++	3

		16
	Third Semester	
BUSA 221G	Business Communication	3
CISC 180	Introduction to Network Security	4
CISC 205	Introduction to Network Operating Systems	4
----------	Technical Elective +++	3/4
----------	Elective +++	3
		17/18
	Fourth Semester	
CISC 280	Law and Ethics of Computer Security	3
CISC 282	Measure/Counter-Measure	4
CISC 284	Ethical Hacking	3
----------	Social Science: Scientific Study of Human Behavior Elective (SSHB) ++	3
----------	Arts and Humanities Elective (AH) ++	3
		16
	Total Credits:	**63/64**

+ Mathematics Elective options: MATH 140, 145, 150, 160, 165, 175, 176, 180, 181, 202, 210, 211
++ One of the Arts and Humanities (AH) or Social Science: Scientific Study of Human Behavior (SSHB) or Societies and Institutions over Time (SIT) Electives must also be designated as Diversity and Global Awareness (D).
+++ Technical Elective Options: recommend CISC 267, but CISC 115, 128, 136 or 254 can be selected.

- Completion of BUSA 221G satisfies the Writing Intensive (WI) requirement.

Career Potential: Information Assurance Specialist, Security Administrator, Security Technologist, or similar.

Computer Science

Business & Technology

Degree awarded: Associate in Science

Program Narrative

If you are planning to pursue a bachelor's degree in computer science, Northampton's associate's degree program can be an affordable way to start. Our program parallels the first two years of standard four-year computer science degree programs. By working closely with your advisor, you can plan your course of study to ensure that you will enter the transfer school of your choice prepared to complete your degree.

Graduates of our program who complete a bachelor's degree are prepared for a variety of sophisticated positions in the computer field: as an applications programmer, systems programmer, programmer/analyst or software developer.

Program Features

The Northampton Computer Science curriculum includes computer programming, introductory computer architecture, mathematics, and general education courses. Depending on your plans and available time, you can complete this program in two years of full-time study with day and evening classes or in three to five years of part-time evening study.

Contact the Admissions Office at 610-861-5500 for further information.

Program Outcomes

Graduates of the program will:

- Use effective approaches for problem solving and algorithm development.
- Use critical thinking to evaluate computing problems and explore options for their solution.
- Be experienced in solving problems related to computer programming and implementing these solutions.
- Have experience in algorithm analysis and data abstraction.
- Have comprehensive understanding of computer hardware needed to critically interpret technical information.
- Explore the nature, characteristics, and design issues of contemporary computing systems.
- Develop abstract thinking skills necessary to compete at a transfer institution.

Computer Science

Associate in Science Degree

Course Code	Course Title	Credits
	First Semester	
CISC 115	Computer Science I	4
ENGL 101	English I	3
MATH 180	Calculus I	4

----------	Social Science: Society and Institutions over Time Elective (SIT)	3
		14
	Second Semester	
CISC 125	Computer Science II	4
CMTH 102	Speech Communication	3
ENGL 151L	English II (Literature)	3
MATH 181	Calculus II	4
----------	Elective	3
		17
	Third Semester	
CISC 230	Data Structures and Algorithm Analysis	4
----------	Science Elective (SCI)	4
----------	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
----------	Elective	3
		16
	Fourth Semester	
CISC 225	Computer Organization	4
MATH 202	Discrete math	3
----------	Arts and Humanities Elective (AH)	3
----------	Electives	6
		16
	Total Credits:	**61**

- The General Education Electives must be selected from the list of approved courses in each of the categories: Arts and Humanities (AH); Social Science: Society and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB); Science (SCI).
- One course should be designated as Diversity and Global Awareness (D).
- Two courses must be taken in Writing Intensive (WI) sections. One must be selected from among the General Education Electives; the second must be selected from: PHIL 111G, PHIL 202G, or PSYC 103G.
- All Electives must be chosen from the list of courses which are applicable to AA and AS degrees, and should be chosen with transferability in mind; MATH 210 (Calculus III) is recommended.

Career Potential: Computer Sciences

NCC students have transferred to: DeSales University, East Stroudsburg University, Kutztown University, Moravian College, Muhlenberg College, Pennsylvania State University, Lehigh University

Construction Management

Business & Technology

Degree awarded: Associate in Applied Science

Program Narrative

Large-scale construction requires well-trained managers whose role it is to stay on top of every detail of the job. Construction managers must be familiar with all aspects of the building process, but they also need to be strong leaders. Because of this, our program not only covers essentials such as codes and blueprint reading, but also includes business law, ethics, planning and scheduling and other important management tools. This comprehensive approach results in graduates who are ready to be effective managers and administrators within the construction industry.

Program Features

Through our balanced mix of liberal arts, specialized courses and hands-on training, Northampton offers you tremendous opportunity for success and professional growth. Our required practicum provides essential real world experience. During the practicum you will have the opportunity to perform various construction management functions, gain insight into the challenges of managing a site, and enhance your critical thinking, problem solving and communication skills.

This program can be completed in the day or evening, on a full-time or part-time basis. A few courses may not be offered in the evening every semester so students are advised to plan their schedule carefully to avoid any delay in graduation.

Program Requirements

Students are required to secure a workplace sponsor for the practicum. Assistance can be provided by the construction management staff to facilitate sponsorship.

Core Progressive Threads of Construction Management

- Leadership and supervisory
- Health and Safety
- Legal and ethical
- Effective Communication and Public Relations

Program Outcomes

Graduates of Northampton Community College's A.A.S. degree in Construction Management will be able to:

- Understand the importance of management functions of planning, organizing, leading and controlling.
- Describe construction operations as they relate to production processes, logistics, specifications, and regulatory requirements.
- Integrate health and safety issues within the confines of regulatory compliance and current industry standards to the construction industry.
- Interpret building and zoning codes and other regulatory requirements.
- Interpret technical information in the form of architectural drawings, schematics, specifications, graphs and procedures.
- Utilize effective written and oral communication skills.
- Demonstrate the ability to work both independently and as part of a team.
- Apply legal and ethical principles related to the construction industry.
- Demonstrate a basic understanding of accounting/finance functions as it relates to the construction industry.

Construction Management

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CISC 101	Introduction to Computers	3
CMGT 101	Introduction to Construction Codes	3
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
MATH 120	Nature of Mathematics (QL)	3
		15
	Second Semester	
CMGT 102	Construction Materials and Methods	3
CMGT 103	Construction Safety and Health	3
ENGL 151R	English II (Report Writing)	3
PHIL 202G	Ethics and Moral Problems (AH)	3
----------	General Education Elective (SIT)	3
		15
	Third Semester	
ACCT 101	Financial Accounting I	3
BUSA 205	Management Fundamentals	3
CMGT 104	Construction Print Reading	3
CMGT 105	Project Management and Administration	3
CMGT 106	Construction Planning and Scheduling	3
----------	Elective	3
		18
	Fourth Semester	
BUSA 152	Business Law I	3
CMGT 201	Construction Estimating	3
CMGT 202	Construction Supervision and Leadership	3
CMGT 203	Construction Management Practicum	6
----------	General Education Elective (SSHB)	3
		18
	Total Credits:	**66**

- For the General Education Electives, students must take one course from Social Science: Societies and Institutions over Time (SIT) and Social Science: Scientific Study of Human Behavior (SSHB); one course should be designated as Diversity and Global Awareness (D).
- Completion of PHIL 202G satisfies the Writing Intensive (WI) requirement.

Career Potential: Construction Technicians and tradespersons, Construction Managers, Construction Administrators, Construction and Building Inspectors, Construction Cost Estimators Superintendents, Project Managers, Construction Company Owners, Construction Equipment Operators, Code Enforcement Officer, Construction Specifier

Criminal Justice

Humanities & Social Sciences

Degree awarded: Associate in Applied Science

Program Narrative

Northampton's Criminal Justice program offers you a wealth of opportunities. Whether you want to enter the workforce after two years of study, transfer to a four-year program, or enhance your education as a professional already employed in this field, NCC's program is for you.

Courses taught by experts in the field include hands-on education within a classroom setting. You'll obtain an understanding of the criminal justice system, be adept with the language and culture of the criminal justice profession, and gain the knowledge you need to live up to professional expectations. The program is fully available at the Bethlehem and Monroe campuses, as well as online. Course work is offered mainly in the daytime on campus, with some courses available only in the evening.

Program Features

The program serves three types of students: those seeking entry-level employment in the field, those already employed in the system who seek professional advancement, and those who plan to pursue a bachelor's degree in criminal justice, criminology or related disciplines.

Our program readies you for employment in police departments, prisons, or community correction and treatment centers. It can also prepare you for a career in state and federal agencies such as the Federal Bureau of Investigation, Treasury Department, Drug Enforcement Administration, and the Alcohol Tobacco and Firearms Bureau. If you are interested in working for a specific agency, you should contact that agency early in your studies to determine the specific educational requirements you will need. Professionals in Northampton's Career Services and counseling offices, as well as instructors within the program, can assist you in meeting your career goals.

If your career plan includes a bachelor's degree with specialization in the field, you may want to consider the College's articulation agreements and dual admissions programs with DeSales University, Moravian College or Eastern Kentucky University's College of Law Enforcement. These special partnerships make the move to a bachelor's degree program easier, since we've already ensured that your credits from NCC will transfer. Full transfer also may be possible to other colleges and universities offering baccalaureate degrees in the field. Northampton's Academic Advising Office can offer you support and additional information.

The program can be completed in four semesters as a full-time student taking 15-16 credits per semester. The majority of courses are offered in the day, but three required courses are offered in the evening only. Courses are offered in the fall and spring only.

Contact the Admissions Office at 610-861-5500 for further information.

Program Outcomes

Graduates of the program will:

- Demonstrate understanding of criminological behavior theory as applied by the criminal justice professional in the work environment.
- Understand psychological and sociological theories of crime causation.
- Know the functions, duties and roles of law enforcement officers at various levels in the criminal justice system.
- Show knowledge of criminal law, criminal procedure, civil law and the courts as it relates to the legal system.
- Exhibit awareness of the special needs and functions of the juvenile justice system.
- Develop understanding of the corrections system in the United States.
- Apply the ability to think critically and analytically in various criminal justice work settings.
- Develop excellent professional writing and communication skills.
- Exemplify the basic professional requirements for entry level positions through the criminal justice system.
- Be prepared to transfer to a four year college/university.

Criminal Justice

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CJST 101	Introduction to Criminal Justice	3
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
PSYC 103	Introduction to Psychology	3
SOCA 103	Principles of Sociology	3
		15
	Second Semester	
CISC 101	Introduction to Computers	3
CJST 111	American Legal System	3
CJST 131	Juvenile Justice	3
ENGL 151R	English II (Report Writing)	3
PSYC 255	Abnormal Psychology	3
SOCA 150	Deviance	3
		18
	Third Semester	
CJST 115	Criminal Law	3
CJST 121G	Criminology	3
CJST 145	Criminal Justice Ethics	3
SOCA 204	Social Problems	3
----------	Mathematics (QL) or Science Elective (SCI) ++	3/4
		15/16
	Fourth Semester	

CJST 125	Corrections and Rehabilitation	3
CJST 250	Contemporary Issues in Criminal Justice	3
POLS 105G	American Constitutional Law	3
----------	Arts and Humanities Elective (AH)	3
----------	Elective +++	3
		15
	Total Credits:	**63/64**

++ Mathematics (QL) or Science (SCI) Elective must be chosen from the list of approved General Education Mathematics or Science courses. (NOTE: MATH 103 may not be used.) MATH 150 is recommended for students who intend to transfer.
+++ Elective credits may not be satisfied by a CJST course, except CJST 135, Law Enforcement and Investigative Techniques.

- Completion of both POLS 105G and CJST 121G satisfies the Writing Intensive (WI) requirement.
- CJST 250 is a capstone course and should be taken in the final semester with CJST 125.

Career Potential: Police Officer, Correctional Officer, Security Consultant, Community Treatment Facility Staff

Leading to: Federal Security Agency Positions, Criminal Law Enforcement

Culinary Arts

Business & Technology

Degree awarded: Associate in Applied Science;
Specialized Diploma conferred

Program Narrative

Since its creation in 1993, Northampton's Culinary Arts program has earned a reputation as one of the finest of its kind. As a graduate of our program, you will be in demand in a wide variety of settings. Nearly all of the leading food service industry employers in our region - from fine dining restaurants to campus dining services - proudly employ our graduates.

The program provides a year of intensive full-time study that combines theory and lecture with nearly 1,000 hours of hands-on practical application. Students are trained in all the formal classical methods of preparing food and then put that training into practice. Once the culinary training has been completed, students can complete the additional core courses needed to earn their Associate in Applied Science degree. If you already have a college degree, you may prefer to opt for the program's specialized diploma and forgo the core courses required for the associate's degree.

Culinary Arts graduates are trained for careers including chef, line chef, banquet chef, executive chef, baker, pastry chef and caterer. Potential work settings include multi-unit chain restaurants, owner operated restaurants, four-star hotels, private country clubs, corporate food service and catering. Whether you would like to own your own restaurant or work for a large employer, you will find rewarding and satisfying career opportunities with a degree from our program.

Program Features

The program starts with an intensive series of seven culinary modules taught over the first six-month period. This period combines classroom discussion, lecture and demonstration of theories and techniques used in the food service industry, and hands-on skills training. In the second six months of the program, you will be part of the student team that runs the College's fine dining restaurant, Hampton Winds, located in the Gates Center.

View Gainful Employment information on the Culinary Arts specialized diploma.

Program Requirements

The Culinary Arts Program is a selective admissions program and there will be more applicants than can be accepted. You are therefore encouraged to apply with all necessary paperwork by the established deadline dates.

There are two opportunities during the year to enter the program. The preferred application deadline for fall enrollment (courses beginning in August) is February 1st; the preferred spring (courses beginning in March) deadline is October 1st. A completed application includes the application and fee and official high school and college (if applicable) transcripts.

Prior to acceptance, you are required to take the English Placement Test (EPT) and be able to enroll in English 101 or be able to transfer English 101 or its equivalent. Immunizations for Hepatitis A and Hepatitis B and a urinalysis are required for all Culinary Arts Students.

Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes

Graduates of the program will:

- Understand the terminology of the commercial kitchen. This includes terms from several European languages, as well as the accepted terms and titles used in a modern food service establishment.
- Have an understanding of the operation, maintenance and cleaning of the tools and machines used in a modern food service establishment.
- Demonstrate proper sanitation and safety techniques for all aspects of the food service establishment.

- Demonstrate knowledge and application of culinary techniques and methods used in modern food preparation.
- Recognize all of the major food products used in a commercial food service establishment.
- Demonstrate an ability to maintain an organized file of recipes and preparation methods.
- Demonstrate the ability to accurately measure and formulate recipes that result in consistent desired results each and every time, both in quality and cost.
- Demonstrate the ability to organize a food preparation workstation based on menu items to be prepared.

Culinary Arts

Associate in Applied Science Degree

Course Code	Course Title	Credits
CULA___	Culinary Arts Specialized Diploma Courses	46
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
ENGL 151R	English II (Report Writing)	3
----------	Mathematics (QL) or Science (SCI) Elective	3/4
----------	General Education Elective	3
----------	General Education Elective	3
----------	General Education Elective	3
----------	Elective	3
	Total Credits:	**70/71**

- The Mathematics (QL) or Science (SCI) Elective must be selected from the list of General Education Mathematics or Science courses.
- For the General Education Electives, students must take three courses from the list of approved courses in at least two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).
- One General Education course must be taken in a Writing Intensive (WI) section.

Culinary Arts

Specialized Diploma

Course Code	Course Title	Credits
	First Semester	
CULA 102	Food Safety and Sanitation	2
CULA 103	Nutrition	2
CULA 105	Product Identification and Stewarding	3
CULA 110	Baking	3
CULA 115	Meat, Poultry and Fish Cutting	3
CULA 120	Skill Development I	3
		16
	Second Semester	
CULA 130	Basic Entrees and Vegetables	3
CULA 145	Restaurant Operations I	8
CULA 170	Skill Development II	4
		15
	Third Semester	
CULA 150	Restaurant Operations II	15
	Total Credits:	**46**

Career Potential: Leading to: Chef, Line Chef, Banquet Chef, Executive Chef, Baker, Pastry Chef, Caterer

Dental Hygiene

Allied Health & Sciences

Degree awarded: Associate in Applied Science

Program Information

Essential Functions of a Dental Hygienist

Overview of the Clinical Education Process

Career Assessment Form

Program Narrative

Dental Hygiene is a rewarding field that offers flexible work schedules and attractive salaries. If you are interested in working directly with clients to help them achieve and maintain optimal oral health, a career in Dental Hygiene could be a great option.

Dental hygienists are licensed oral health professionals who play an essential role in the field of dentistry. Dental hygienists provide a variety of services that prevent, or limit the extent of, cavities and/or gum disease. They also provide educational, clinical and therapeutic services for people of all ages and in every situation. As a licensed hygienist you could have the opportunity to make a difference in the lives of a range of populations, including the medically compromised, mentally or physically challenged, and socially or culturally disadvantaged. While most dental hygienists practice in private dental offices, others provide services in hospitals, private businesses, correctional institutions and a variety of private and public centers.

Northampton's Dental Hygiene program is among the most respected in Pennsylvania. During the two-year program, all pre-clinical and clinical practice occurs in the dental clinic located at the Fowler Family Southside Center campus. Professional hygienists working in the field enhance the hands-on aspects of the clinical portion of the program. The dental hygiene program is competency-based and assesses all clinical and laboratory courses using pass/fail criteria. Students must earn grades of C (75%) or better in all DENH courses to qualify for semester promotion. If you are interested in a higher level of education, Northampton has developed articulation agreements with dental hygiene baccalaureate degree programs to facilitate admissions and the transfer of credits.

Northampton's program in Dental Hygiene is accredited by the Commission on Dental Accreditation. The Commission is a specialized accrediting body recognized by the United States Department of Education. The Commission on Dental Accreditation can be contacted at (312) 440-4653 or at 211 East Chicago Avenue, Chicago, IL 60611-2678. www.ada.org

Program Mission

While upholding the mission and vision of Northampton Community College, the Dental Hygiene program provides excellent, comprehensive learning experiences to prepare students with the knowledge and clinical skills to competently practice as dental hygienists.

Statement of Values

The Dental Hygiene program values:

- **Excellence -** Quality in the educational experiences that we provide
- **Innovation -** Curricular responsiveness to adapt quickly to changes in the profession
- **Sustainability** - Commitment through our professional actions to respond to the institution, the community, the economy and the environment
- **Accountability -** Individual responsibility for his/her actions, growth and development
- **Integrity -** Academic, personal and professional honesty, fairness, ethical conduct and respect for others
- **Engagement -** Involvement in and collaboration with the communities we serve

Program Admissions Requirements

Admission is on a competitive basis. All applicants must submit:

- an application OR a re-entry form
- a change of major form (only if currently enrolled)
- official transcripts (updated copies)
- a completed Career Assessment Form (a new form must be submitted every year)

The minimum admission requirements to the program include:

- Completed high school Biology with a lab component with a grade of B and
- completed high school Chemistry with a lab component with a grade of B (if a candidate did not complete Biology and/or Chemistry with B grades in high school, equivalent courses taken at a post-secondary institution are acceptable substitutes, i.e., NCC CHEM 135 and BIOS 115) and
- an overall high school grade point average (GPA) of 3.0 (B)

The minimum admission requirements to the program for applicants who have completed more than 12 college credits include:

- The most recently completed Biology course with a lab - if completed in high school with a grade of B, or if completed in college, a grade of B minus (i.e., NCC BIOS 115, BIOS 160 or BIOS 204) and
- the most recently completed Chemistry course with a lab - if completed in high school with a grade of B, or if completed in college, a grade of B minus (i.e., NCC CHEM 135) and
- a program-specific college science GPA of 2.70 (possible courses include NCC CHEM 135, BIOS 160 and BIOS 202 only) and
- a cumulative college GPA of 2.70 in all program- specific non-science courses

Meeting the minimum admission requirements does not guarantee admission to the Dental Hygiene program.

Please Note: Students accepted into the Dental Hygiene program will be required to submit results of a criminal background check and Pennsylvania Child and Elder Abuse History Clearance to the program director. Students will also be required to have health insurance, complete a personal medical history, and be certified prior to the start of the semester in First Aid and CPR/BLS of Healthcare Providers.

Deadlines

To receive primary consideration, completed applications must be submitted by February 1. Applications received after this date will be reviewed on a space-available basis.

Contact the Admissions Office at 610-861-5500 for further information.

Program Outcomes

1. Students will be competent with respect to the Northampton Community College's Dental Hygiene Department document, "Competencies for Entry into the Profession of Dental Hygiene".

Students must demonstrate competency in the following:

Core Competencies

- Model professional behavior.
- Adhere to state and federal laws, recommendations and regulations in the provision of dental hygiene care.
- Gather, evaluate and use information effectively.
- Reflect on personal performance through self-assessment.
- Communicate effectively with individuals and groups from diverse populations both verbally and in writing.
- Use evidence-based decision making to evaluate products and existing, emerging therapies.

Health Promotion and Disease Prevention

- Identify risk factors and develop, implement, and evaluate strategies to promote health and prevent disease.
- Utilize methods to ensure the health and safety of the client and the dental hygienist in the delivery of dental hygiene services.
- Foster interprofessional relationships and collaborate on strategies for health promotion and disease prevention for individuals and communities.

Community Involvement

- Assess the oral health needs of the community and plan, implement and evaluate programs to address those needs.
- Provide community oral health promotion and disease prevention activities in a variety of settings.

Client Care

- Systematically collect, analyze and record data on the general, oral and social health status of a variety of clients to identify risk factors, clients' needs and oral health problems. (Assess)
- Use assessment data and critical decision making skills to reach conclusions about clients' oral health needs. (Diagnose)
- Collaborate with clients and other health professionals to formulate client-centered, comprehensive dental hygiene care plans that are based on current evidence-based practices and that acknowledge clients' informed consent. (Plan)
- Provide specialized treatment that includes preventive and therapeutic services designed to achieve and maintain oral health. (Implement)
- Evaluate the effectiveness of the implemented clinical, preventive and educational services and modify as needed. (Evaluate)

2. Students will be prepared to successfully complete the National Board Dental Hygiene Examination and the clinical board examination administered by the Commission on Dental Competency Assessments (CDCA).

3. A relevant, current dental hygiene program will be maintained with a curriculum that reflects the standards of clinical practice, education and research.

4. Quality individualized client-centered dental hygiene care will be provided.

5. Students and faculty will engage in interprofessional collaboration to enhance learning experiences, interpersonal skills, and interactions with diverse populations and health care teams.

6. Students and faculty will participate in community service and professional association activities.

Dental Hygiene

Associate in Applied Science Degree

Course Code	Course Title	Credits
	Summer II Session	
CHEM 135	Chemistry of Life	4
ENGL 101C	English I	3
		7
	First Semester	
BIOS 160	Human Biology	4
DENH 103	Pre-clinical Preventive Oral Health Services	3
DENH 104	Foundations of Preventive Oral Health Services	4
DENH 105	Oral Histology	1
DENH 106	Oral Anatomy	2
DENH 110	Oral Radiology	2
		16

	Second Semester	
BIOS 202	Microbiology for Allied Health	4
DENH 109	Oral Radiology Lab	1
DENH 150	Clinical Preventive Oral Health Services I	3
DENH 152	Preventive Oral Health Services I	2
DENH 153	Periodontology	2
DENH 154	Oral Health Care for Medically Complex Clients and Clients with Special Needs	1
DENH 155	General and Oral Pathology	2
ENGL 151L	English II (Literature)	3
		18
	Summer I Session	
DENH 212	Pharmacology	2
CMTH 102	Speech Communication	3
		5
	Third Semester	
DENH 205	Nutrition for the Dental Health Care Provider	2
DENH 206	Local Anesthesia	2
DENH 210	Clinical Preventive Oral Health Services II	4
DENH 211	Preventive Oral Health Services II	3
DENH 220	Community Dental Health I	1
PSYC 103	Introduction to Psychology	3
		15
	Fourth Semester	
DENH 240	Community Dental Health II	1
DENH 250	Clinical Preventive Oral Health Services III	4
DENH 251	Preventive Oral Health Services III	2
SOCA 103	Principles of Sociology	3
----------	General Education Elective	3
		13
	Total Credits:	**74**

- For the General Education Elective, students must choose one course from the list of approved courses in one of the following categories: Arts and Humanities (AH); Social Science: Societies and Institutions over Time (SIT).
- The free elective requirement has been waived for this program.
- Computer competencies and writing intensive work are included in various courses in this program. Thus, completing the program automatically satisfies the computing and writing intensive requirements for this program.
- Healthcare Provider CPR and Basic First Aid certifications are required immediately prior to Fall Semester - First Year.
- Students must earn grades of "C" or better in all DENH courses to qualify for semester promotion/graduation.

Career Potential: Public Health Dental Hygiene Practitioner, Dental Sales, Dental Hygiene Instructor, School Hygienist, Registered Dental Hygienist in a general, periodontic, pediatric, prosthodontic and/or orthodontic private practice.

Transfer Potential: Penn College of Technology, West Virginia University, Farmingdale State College, University of Bridgeport, St. Petersburg College

Diagnostic Medical Sonography

Allied Health & Sciences

Degree awarded: Associate in Applied Science

Program Outcomes

Essential Functions of a Sonographer

Virtual Career Shadowing Via the Internet

Career Assessment Form

Schedule of DMS Classes

Program Narrative

With America's growing and aging population, the healthcare sector continues to offer growth in employment opportunities. Sonography is a key part of today's advanced medical practices, and qualified sonography graduates from Northampton find good-paying, flexible and rewarding positions throughout the country.

Completion of the program requirements of Northampton's Associate in Applied Science (AAS) degree allows the graduate the opportunity to sit for the American Registry of Diagnostic Medical Sonographer's (ARDMS) examination.

NCC's sonography program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in collaboration with the Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS).

Diagnostic Medical Sonography

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
25400 U.S. Highway 19 North, Suite 158
Clearwater, FL 33763
Phone: (727) 210-2350
Fax: (727) 210-2354
www.caahep.org

Joint Review Committee on Education in Diagnostic Medical Sonography
6021 University Blvd, Suite 500
Ellicott, MD 21043
Phone: (443) 973-3251
Fax: (866) 738-3444
www.jrcdms.org
magat@jrcdms.org

Mission Statement

The mission of Northampton's Diagnostic Medical Sonography Program is to provide a quality and comprehensive education in general sonography in a learner-centered environment. The graduates will have the knowledge and skills needed to perform quality sonograms. The graduates will serve as integral members of the health care team by contributing to the diagnosis of the patient's illness. The program will instill in its graduates an understanding of diversity and cultural differences, empathy, and good communication skills. The graduates will be able to critically think and problem solve in order to meet the required examination protocol and technical needs on atypical patients. The graduates will embrace the concept that learning is a life-long experience in order to maintain currency in the dynamic field of sonography.

Program Goals

To produce graduates:

- To prepare competent entry level general sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.
- with a broad knowledge base that enables them to embrace life-long learning.
- who are able to adapt to ever-changing technology in the health care industry.
- who are competent to pass the certification examination.
- who meet or exceed the needs of their employers.

Deadlines

To receive primary consideration, completed applications must be submitted by February 1. Applications received after this date will be reviewed on a space-available basis.

Contact the Admissions Office at 610-861-5500 for further information.

Upon Acceptance into the Sonography Program

The Admissions Office will mail to each student, accepted into the program, a form to be completed for criminal background clearance, and a health form for a complete physical examination. The program will ask for written verification that the essential functions/technical standards can be met.

Associate in Applied Science Degree

This program is designed for the individual without an Allied Health background.

Program Features

The Associate in Applied Science Degree in Diagnostic Medical Sonography at NCC is a 24-month competency-based program beginning in the fall semester of each year. This program is designed for the individual without an Allied Health background. Practice in scanning and instrumentation is done in the lab facility on NCC's campus. The clinical education component of the program is conducted at various clinical affiliates in the Lehigh Valley, Poconos, Bucks County, and New Jersey. There are approximately 1560 hours of clinical education.

Program Admission Requirements

Admission to the program is on a competitive basis. The minimum admission requirements to the program include:

- Completion of high school or GED equivalent
- Completion of high school biology with a lab component with a grade of B or better **OR** BIOS 115
- Completion of 2 units of high school algebra with C or better **OR** MATH 022 and MATH 026 **OR** MATH 028 with a C or better
- Submission of an application
- Submission of all official transcripts
- Completion of a Career Assessment Form (CAF)
- Minimum overall GPA of 3.0
- Competitive applicants will be interviewed by the program admission committee

Meeting the minimum admission requirements does not guarantee admission into the Sonography Program. Primary consideration will be given to applicants who have completed:

- College Algebra, Human Anatomy I & II with a B or better the first time a course is taken
- The general education courses that apply to the program

Diagnostic Medical Sonography

Associate in Applied Science Degree

Course Code	Course Title	Credits
	Fall Semester	
BIOS 204	Human Anatomy and Physiology I	4
DMSG 101	Essentials of Patient Care	2
DMSG 102	Introduction to Diagnostic Medical Sonography	1
DMSG 103	Introduction to Acoustal Physics	2
DMSG 104	Introduction to Clinical Education	1
DMSG 125	Sectional Anatomy for Medical Imagers	1
ENGL 101	English I	3
MATH 140	College Algebra	3
		17
	Spring Semester	
BIOS 254	Human Anatomy and Physiology II	4
DMSG 105	Acoustic Physics and Instrumentation I	2
DMSG 110	Abdominal Sonography - Anatomy, Physiology, Imaging and Critique	4
DMSG 115	Obstetrical and Gynecological Sonography - Anatomy, Physiology, Imaging, and Critique I	4
DMSG 124	Clinical Education I	2
		16
	Summer Sessions	
DMSG 174	Clinical Education II	2
----------	Elective	3
		5
	Fall Semester	
CMTH 102	Speech Communication	3
DMSG 155	Acoustic Physics and Instrumentation II	3
DMSG 160	Abdominal Sonography - Anatomy, Physiology, Imaging and Critique II	4
DMSG 163	Fundamentals of Fetal Scanning	1
DMSG 224	Clinical Education III	2
ENGL 151L	English II (Literature)	3
		16
	Spring Semester	
DMSG 165	Obstetrical and Gynecological Sonography - Anatomy, Physiology, Imaging, and Critique II	4
DMSG 215G	Small Parts and Special Topics	2
DMSG 234	Clinical Education IV	3
DMSG 235	Introduction to Vascular Sonography	2
PSYC 103	Introduction to Psychology	3
----------	Social Science: Societies and Institutions over Time Elective (SIT)	3
		17
	Summer Sessions	
DMSG 244	Clinical Education V	3
	Total Credits	**74**

- Human Anatomy and Physiology I is substituted for one of the Human Knowledge courses.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

Career Potential: Sonographer (RDMS), Echocardiographer (RDCS), Vascular Technologist (RVT)

Transfer Potential: Thomas Jefferson University, Misercordia University and Adventist University of Health Sciences.

Education Overview

Students intending to prepare to become teachers of children from infancy through twelfth grade may start their educational preparation at Northampton Community College. NCC offers five distinct degree programs that will prepare students for a variety of teaching positions in settings such as public schools, parochial and private schools, as well as childcare centers and Head Start programs. Our degree programs are:

- Early Childhood Education: Infant to Grade 4, AAS
- Middle Level Education: Grades 4 to 8, AA

- Secondary Education, AA
- Secondary Education: Math & Science, AS
- Special Education Paraeducator, AAS

The information presented below answers some questions students frequently ask when thinking about a career in education.

Are you not sure which level or grade you want to teach?

Many students that come to NCC interested in teaching as a career are unsure of which grades they would be best suited to teach. Such students should take **EDUC115 Education for All Students**, a course which explores all grade levels, including pre-kindergarten through high school teaching. EDUC115 gives students real world experience through observations in the schools, which often helps students to determine which level of teaching is best for them.

Are you sure that you want to teach young children, Pre-Kindergarten to Grade 4 and/or aged infancy to age 9 in child care or Head Start?

Students who are sure that they want to work with younger students up to Grade 4 may enter directly into the **Early Childhood Education: Infant to Grade 4**, associate in applied science degree program. The Early Childhood Education program provides extensive opportunities to observe and work with young children during your time at NCC. Upon graduation from NCC students have two choices: immediately obtain a teaching position in a child care center or at a Head Start program, or, transfer to a bachelor's degree program at a college or university to complete the requirements for teacher certification.

Do you have a subject area that you think you want to teach?

Students that think they may want to teach a subject or content area (mathematics, science, English, social studies, etc) may consider teaching at either the middle school or high school level.

The Middle School Grades 4 to 8 certification is new to Pennsylvania. Middle level certification will allow teachers to teach the last two grades of elementary school (grades 4 and 5) and all grades of middle school. **The Middle Level Education: Grades 4 to 8** NCC degree gives students a strong foundation in mathematics, science, language arts, and social science. Students then transfer to a bachelor's degree program at college or university to complete the requirements for teacher certification.

Students intending to become high school teachers should select either the NCC degree in **Secondary Education** (for those that want to teach English, history, foreign language, or social studies), or, the **Secondary Education: Math & Science** degree. After graduation from NCC students then transfer to a bachelor's degree program at college or university to complete the requirements for teacher certification.

What teaching positions could I obtain with an associate degree from NCC?

Students who wish to enter directly into a job after completing an associate degree from NCC have several options. The **Early Childhood Education: Infant to Grade 4** prepares students to work in childcare centers and Head Start programs.

NCC also offers the gateway to a career as a paraeducator or teacher assistants through the **Special Education Paraeducator** degree. For students who wish to help classroom teachers, the position of teacher assistant offers another opportunity to work in schools.

Students who have completed the **Middle Level Education: Grades 4-8,** the **Secondary Education,** or the **Secondary Education: Math & Science** associate in science degree may also gain employment as teacher assistants.

Northampton offers a wide range of programs for students intending to make teaching a career.

Education - Early Childhood Education: Infant to Grade 4

Please note: Overview information for Education Majors can be found by clicking here.

ECE Homepage

Education & Academic Success

Degree awarded: Associate in Applied Science;
Certificate and Specialized Diplomas conferred

Program Narrative

Teaching young children is rewarding and inspiring! Our highly qualified faculty prepares students to be effective teachers of children aged infant to nine years. Graduates may transfer seamlessly to four-year institutions or immediately enter the early care and education profession.

Graduates who transfer within Pennsylvania may enter a four-year institution at the junior level where they will earn a baccalaureate degree and Pre-K to Grade 4 Pennsylvania certification required to teach pre-kindergarten to grade four in public and private schools.

Graduates who enter the early care and education profession are qualified to work as lead teachers in child care centers, Head Start programs, nursery schools, and assistant teachers in pre-kindergarten classrooms. With experience and additional education, graduates may be employed as program directors.

Program Features

NCC's Early Childhood program is accredited by the National Association for the Education of Young Children. The entire program is available both on the Bethlehem and Monroe campuses, and online. English Language Learner (ELL) competencies are introduced in three courses and integrated in other early childhood courses. Knowledge and skills related to cultural, linguistic, ability diversity are also embedded in all courses. Observational and supervised field experiences with children from infancy through age nine occur in accredited campus lab schools, work-site classrooms and/or approved off-campus locations. As part of the field experience, students taking courses online are required to submit video documentation of their teaching. Students need access to digital video and still cameras.

The arts are integrated across all courses as symbol systems used to represent, express and construct meaning and understanding. The program's conceptual framework, *Art as a Way of Learning*®, was developed in partnership with Crayola LLC.

Proof of current health, child abuse, FBI, and criminal record clearances are required prior to enrolling in a course. Two letters of reference are also required.

Program Outcomes

- Promoting Child Development and Learning: Students use evidence based knowledge of child development and learning to understand that each child's learning and development is unique based on cultural, linguistic, and ability diversity as well as other interacting influences to create safe, healthy, respectful and inclusive learning environments that provide responsive, developmentally appropriate arts integrated learning opportunities.
- Building Family and Community Relationships: Students use evidence based knowledge to understand complex and diverse characteristics of families and communities using multiple perspectives to support each child's development and learning through collaborative relationships.
- Observing, Documenting, and Assessing to Support Young Children and Families: Students use evidence based knowledge about systematic observation and the goals, benefits, and appropriate uses of assessment in partnership with families and other professionals to understand and make decisions about environments, curriculum, and interactions to support each child's development and learning.
- Using Developmentally Effective Approaches: Students use evidence based knowledge to understand and build positive relationships and supportive interactions as the foundation for their work with children and families. Students apply arts integrated and developmentally appropriate approaches and Universal Design for Learning to support each child's development and learning.
- Using Content to Build Meaningful Curriculum: Students use evidence based knowledge of subject areas, Universal Design for Learning, inquiry tools, and resources to design, implement, and evaluate curriculum and experiences to support each child's development and learning.
- Becoming a Professional: Students use evidence based knowledge of ethical guidelines and professional standards. They engage in continuous, collaborative learning and demonstrate knowledgeable, reflective, and critical perspectives to make informed decisions about advocating for sound practices and policies in early education.

Early Childhood Education: Infant to Grade 4

Associate in Applied Science

Course Code	Course Title	Credits
	Semester One	
EARL 106	Early Childhood Development and Learning	3
EARL 107	Observation and Assessment in Early Childhood	3
CMTH 102	Speech Communication	3
ENGL 101	English I	3
SOCA 103 or	Principles of Sociology or	
SOCA 102	Cultural Anthropology (ESU Required)	3
		15
	Semester Two	
EARL 126	Arts in Early Childhood	3
EARL 128	Infant-Toddler Development and Learning	3
ENGL 151L	English II (Literature)	3
ARTA 100 or	Art and Visual Thinking (AH) or	3
CMTH 110 or	Introduction to the Theatre, or	
MUSC 101 or	Introduction to Music or	
DANC 101	Dance History	
SPED 160	Introduction to Special Education	3
		15
	Semester Three	
EARL 208	Math in Early Childhood	3
EARL 216	Language and Literacy in Early Childhood	3
EARL 217	Child, Family and Community	3
MATH 118	Foundations of Mathematics I	3
GEOG 101 or	World Geography or	3
HIST 113 or	American History I or	
HIST163	American History II	

		15
	Semester Four	
EARL 218	Science in Early Childhood	3
EARL 244	Early Childhood Profession	3
EARL 263G	Internship - Early Childhood	3
MATH 119	Foundations of Mathematics II	3
BIOS 105	Contemporary Biology	4
		16
	Total Credits	**61**

* EDUC 105 is highly recommended for students who are transferring.

- Computer competencies are included in various courses in the program.

ECE Career Potential: Preschool Teacher, Group Supervisor, Program Director, Classroom Assistants, Nanny, Family Child Care Provider

NCC students transfer to: East Stroudsburg University, Bloomsburg University, Lock Haven University, Shippensburg University, DeSales University, Moravian College, Penn State University

Students are employed: Head Start, Child Care Centers, Family Child Care, School Districts

Early Childhood Education: Infant to Grade 4

Certificate

Course Code	Course Title	Credits
EARL 106	Early Childhood Development and Learning	3
EARL 107	Observation and Assessment in Early Childhood	3
EARL 126	Arts in Early Childhood	3
EARL 128	Infant-Toddler Development and Learning	3
EARL 208	Math in Early Childhood	3
EARL 216	Language and Literacy in Early Childhood	3
EARL 217	Child, Family and Communities	3
EARL 218	Science in Early Childhood	3
EARL 244	Early Childhood Profession	3
EARL 263G	Internship - Early Childhood	3
ENGL 101	English I	3
GEOG 101 or	World Geography or	3
HIST 113 or	American History I or	
HIST 163	American History II	
	Total Credits	**36**

Child Development Associate (CDA)

Specialized Diploma

There are Specialized Diploma options that prepare you for the Child Development Associate (CDA) of your choice(I/T, Pre K, or Family Child Care). The CDA is the nationally recognized credential awarded by the Council for Professional Recognition and provides entry into the early childhood profession. Upon satisfactory completion of a CDA Specialized Diploma you are prepared to apply to the Council for your assessment and receive 9 credits toward an Early Childhood Associate Degree. This program is offered on campus and online (eCDA). The online program is an innovative, interactive eCDA offered in partnership with Teaching Strategies, Inc. Check with an admission counselor before enrollment.

Course Code	Course Title	Credits
EARL 106	Early Childhood Development and Learning	3
EARL 217	Child, Family and Community	3
EARL 244	Early Childhood Profession	3
	Total Credits	**9**

Infant-Toddler Child Development Associate

Specialized Diploma

This program is designed for students interested in working with infant and toddler age groups. Those interested in earning their CDA credential from the Council for Professional Recognition must enroll in the Child Development Associate Specialized Diploma program (see above). Credits earned (9) will apply towards an AAS degree in Early Childhood Education: Infant to Grade 4.

Course Code	Course Title	Credits
EARL 106	Early Childhood Development and Learning	3
EARL 128	Infant-Toddler Development and Learning	3
EARL 244	Early Childhood Profession	3
	Total Credits	**9**

School-Age Child Care

Specialized Diploma

Credits earned (9) will apply towards an AAS degree in Early Childhood Education: Infant to Grade 4.

This program provides training for teachers and school-age providers in school-age childcare centers and before/after school programs. Coursework covers successful youth programing, such as observation and assessment, planning, interaction with families and communities, social-emotional development of school-age students, management and leadership of school-age programs, and professional Code of Ethics and Standards for before and after school programs. Candidates are prepared for the Pennsylvania School-Age Professional Credential.

Course Code	Course Title	Credits
EARL 102	Introduction to School Age Child Care	3
EARL 103	Society and the School Age Child	3
EARL 104	School Age Child Care Professional	3
	Total Credits	**9**

Leadership for Early Childhood Program Directors

Specialized Diploma

Program Prerequisite: 15 credits in Early Childhood/Child Development course work or department approval.

This program provides training for current and future directors and owners of early childcare centers and programs. Coursework covers leadership, organization, administration and business management. Program meets Pennsylvania Director's Credential requirement.

Course Code	Course Title	Credits
EARL 231	Organization and Administration of Early Childhood Programs	3
EARL 232	Leadership Seminar in Early Childhood Education	3
BUSA 101	Introduction to Business	3
	Total Credits	**9**

Program prerequisite: 15 credits in Early Childhood/Child Development course work or department approval.

Education - Middle Level Education: Grades 4 to 8

Please note: Overview information for Education Majors can be found by clicking here.

Education & Academic Success

Degree awarded: Associate in Arts

Program Narrative

The need for dedicated, caring, and highly skilled teachers in our nation's schools is greater than ever before. Northampton is committed to providing an excellent foundation for students preparing to major in middle level education when they transfer to a four-year college or university.

The College offers the first two years of the baccalaureate degree program. Completion of the Associate in Arts Degree with a major in Middle Level Education: Grades 4 to 8 allows for a smooth transition to a four-year institution. At the transfer institution students will take advanced courses leading to

a degree and certification for grades 4 through 8.

Program Features

The Middle Level Education major provides students with a strong foundation in mathematics, science, language arts, and social sciences. Students start their professional courses with EDUC115 Education for All Students, EDUC 260G Adolescent Development and Cognition, and SPED160 Introduction to Special Education. All teachers need to be able to work with special education students, and with students who have limited English proficiency. Northampton's program integrates content related to special education and English language learners (ELL). Students will then select education transfer electives based upon the institution to which they will transfer to complete the junior and senior years of the bachelor's degree. We encourage middle level majors to start thinking about their transfer institution as soon as possible so courses can be selected that provide a smooth transition from one college to the next.

Students interested in becoming an art teacher should refer to the Individualized Transfer Studies major which is the pathway from NCC to Kutztown University for art education.

The Middle Level Education major is offered on both the Bethlehem and Monroe campuses. All of the courses for this degree are available in the day time, and many of them are offered through evening courses.

Program Outcomes

Graduates of the program will:

- Explain the distinctive philosophy and characteristic components of developmentally responsive middle level programs and schools.
- Identify the range of developmental differences of all young adolescents and the implications of these differences for teaching and learning.
- Explain the historical, legal, and philosophical frameworks of special education to describe current trends, evidence-based practices, and resources relevant to the education of children with exceptionalities.
- Summarize the process of acquiring multiple languages and literacy skills, and the sociocultural characteristics of English Language Learners.
- Plan positive, productive teaching and learning opportunities that take into consideration the developmental differences of adolescents.
- Practice being a positive role model and tutor to middle level students by upholding high professional standards in the school setting during 40 hours of early field experience.

Middle Level Education: Grades 4-8

Associate in Arts Degree

Course Code	Course Title	Credits
	First Semester	
CMTH 102	Speech Communication	3
EDUC 115	Education for All Students	3
ENGL 101C	English I	3
HIST 113	American History I (SIT)	3
MATH 118	Foundations of Math I (QL)	3
		15
	Second Semester	
BIOS 105	Contemporary Biology (SCI)	4
ENGL 151L	English II (Literature)	3
MATH 119	Foundations of Math II	3
SPED 160	Intro to Special Education	3
----------	Social Science Transfer Elective + (SSHB)	3
		16
	Third Semester	
CHEM 135	Chemistry of Life	4
EDUC 105	Pre-Service Academic Assessment (PAPA) Preparation	1
EDUC 260G	Adolescent Development & Cognition (WI)	3
MATH 150	Introductory Statistics (QL)	3
----------	Social Science Transfer Elective + (SIT or SSHB)	3
----------	Transfer Elective +	3
		17
	Fourth Semester	
ENGL 215G	Multicultural Adolescent Literature (AH) (WI)(D)	3
MATH 140	College Algebra	3
----------	Social Science Transfer Elective (SIT or SSHB) +	3
----------	Transfer Elective +	3
----------	Transfer Elective +	3

	15
Total Credits	**63**

+ Transfer Electives must be selected with the advice of an academic advisor so that courses will transfer to the students' intended transfer institution. Refer to transfer guides.

- EDUC105 Pre-Service Academic Assessment (PAPA) Preparation course assists students to prepare for the standardized exam. The course is not otherwise AA/AS applicable and is not transferable.
- Writing intensive courses include EDUC 260G and ENGL 215G. ENGL 215G also fulfils the Diversity and Global Awareness elective.
- Taking both ENGL101C and ENGL151L satisfies the general education Computer Literacy Requirement.

Education - Secondary Education

Please note: Overview information for Education Majors can be found by clicking here.

Education & Academic Success

Degree awarded: Associate in Arts

Program Narrative

The Secondary Education major is designed for students who intend to teach English, a foreign language, history, social studies, or social science, at the high school level.

Students interested in becoming an art teacher should refer to the Individualized Transfer Studies major which is the pathway from NCC to Kutztown University for art education.

The need for dedicated, caring, and highly skilled teachers in our nation's schools is greater than ever before. Northampton is committed to providing an excellent foundation for students preparing to major in secondary education when they transfer to a four-year college or university.

The College offers the first two years of the baccalaureate degree program. Completion of the Associate in Arts Degree with a major in Secondary Education allows for a smooth transition to a four-year institution. At the transfer institution students will take advanced courses leading to a degree and certification for grades 7 through 12.

Program Features

The Secondary Education major provides students with a strong foundation in mathematics, science, language arts, and social sciences. Students start their professional courses with EDUC115 Education for All Students, EDUC260G Adolescent Development and Cognition, and SPED160 Introduction to Special Education. All teachers need to be able to work with special education students, and with students who have limited English proficiency. Northampton's program integrates content related to special education and English language learners (ELL).

Students should determine which subject area they intend to teach in high school, and work with their college advisor to select courses based upon the area of specialization and the institution to which they will transfer to complete the junior and senior years of the bachelor's degree. Students will take a significant number of courses at NCC related to the subject they will teach.

We encourage secondary education majors to start thinking about their transfer institution as soon as possible so courses can be selected that provide a smooth transition from one college to the next.

The Secondary Education major is offered on both the Bethlehem and Monroe campuses. All of the courses for this degree are available in the day time, and many of them are offered through evening courses.

Program Outcomes

Graduates of the program will be able to:

- Explain the philosophy of secondary education and its grounding in the social, philosophical, and historical foundations of education.
- Describe the range of cognitive and developmental differences of all adolescents and the implications of these differences for teaching and learning.
- Identify and apply strategies that provide adolescent students with appropriate skills in making the transition from middle-level to high school, and then to full adult citizenship.
- Explain the historical, legal, and philosophical frameworks of special education to describe current trends, evidence-based practices, and resources relevant to the education of children with exceptionalities.
- Summarize the process of acquiring multiple languages and literacy skills, and the sociocultural characteristics of English Language Learners.
- Practice being a positive role model and tutor to adolescent students by upholding high professional standards in the school setting during 40 hours of early field experience.

Secondary Education

Associate in Arts Degree

Course Code	Course Title	Credits
	First Semester	
CMTH 102	Speech Communication	3

EDUC 115	Education for All Students	3
ENGL 101C	English I	3
MATH _____	Mathematics Transfer Elective (QL) +	3
----------	Social Science Transfer Elective (SIT) +	3
		15
	Second Semester	
ENGL 151L	English II (Literature)	3
SPED 160	Intro to Special Education	3
MATH_____	Mathematics Transfer Elective (QL) +	3
----------	Social Science Transfer Elective (SSHB) +	3
----------	Transfer Elective +	3
		15
	Third Semester	
EDUC 105	Pre-Service Academic Assessment (PAPA) Preparation	1
EDUC 260G	Adolescent Development & Cognition (WI)	3
----------	Social Science Transfer Elective (SIT or SSHB) +	3
----------	Transfer Electives +	9
		16
	Fourth Semester	
ENGL 215G	Multicultural Adolescent Literature (AH) (WI)(D)	3
----------	Social Science Transfer Elective (SIT or SSHB) +	3
----------	Science Transfer Electives (SCI) +	4
----------	Transfer Electives +	6
		16
	Total Credits	**62**

+ Transfer Electives must be selected with the advice of an academic advisor so that courses will transfer to the student's intended transfer institution, and, correspond to the area of content the student will teach at the high school level. Refer to transfer guides.

- EDUC105 Pre-Service Academic Assessment (PAPA) Preparation course helps students to prepare for the standardized exam. The course is not otherwise AA/AS applicable and is not transferable.
- EDUC 260G and ENGL215G fulfill the Writing Intensive requirement. ENGL215G also fulfils the Diversity and Global Awareness elective.
- Taking both ENGL101C and ENGL151L satisfies the general education Computer Literacy Requirement.

Education - Secondary Education: Math & Science

Please note: Overview information for Education Majors can be found by clicking here.

Education & Academic Success

Degree awarded: Associate in Science

Program Narrative

The Secondary Education: Math & Science major is designed for students who intend to teach mathematics or science at the high school level.

Students interested in becoming an art teacher should refer to the Individualized Transfer Studies major which is the pathway from NCC to Kutztown University for art education.

The need for dedicated, caring, and highly skilled teachers in our nation's schools is greater than ever before. Northampton is committed to providing an excellent foundation for students preparing to major in secondary education when they transfer to a four-year college or university.

The College offers the first two years of the baccalaureate degree program. Completion of the Associate in Science Degree with a major in Secondary Education: Math & Science allows for a smooth transition to a four-year institution. At the transfer institution students will take advanced courses leading to a degree and certification for grades 7 through 12.

Program Features

The Secondary Education major provides students with a strong foundation in mathematics, science, language arts, and social sciences. Students start their professional courses with EDUC115 Education for All Students, EDUC 260G Adolescent Development and Cognition, and SPED160 Introduction to Special Education. All teachers need to be able to work with special education students, and with students who have limited English proficiency. Northampton's program integrates content related to special education and English language learners (ELL).

Students should determine which subject area they intend to teach in high school, and work with their college advisor to select courses based upon the area of specialization and the institution to which they will transfer to complete the junior and senior years of the bachelor's degree. Students will take a significant number of courses at NCC related to the subject they will teach.

We encourage secondary education majors to start thinking about their transfer institution as soon as possible so courses can be selected that provide a smooth transition from one college to the next.

The Secondary Education: Math & Science major is offered on both the Bethlehem and Monroe campuses. All of the courses for this degree are available in the day time, and many of them are offered through evening courses.

Program Outcomes

Graduates of the program will be able to:

- Explain the philosophy of secondary education and its grounding in the social, philosophical, and historical foundations of education.
- Describe the range of cognitive and developmental differences of all adolescents and the implications of these differences for teaching and learning.
- Identify and apply strategies that provide adolescent students with appropriate skills in making the transition from middle-level to high school, and then to full adult citizenship.
- Explain the historical, legal, and philosophical frameworks of special education to describe current trends, evidence-based practices, and resources relevant to the education of children with exceptionalities.
- Summarize the process of acquiring multiple languages and literacy skills, and the sociocultural characteristics of English Language Learners.
- Practice being a positive role model and tutor to adolescent students by upholding high professional standards in the school setting during 40 hours of early field experience.

Secondary Education: Mathematics and Science

Associate in Science Degree

Course Code	Course Title	Credits
	First Semester	
CMTH 102	Speech Communication	3
EDUC 115	Education for All Students	3
ENGL 101C	English I	3
MATH _____	Mathematics Transfer Elective (QL) +	3
----------	Mathematics or Science Transfer Elective +	3
		15
	Second Semester	
ENGL 151L	English II (Literature)	3
SPED 160	Intro to Special Education	3
MATH_____	Mathematics Transfer Elective (QL) +	3
----------	Science Transfer Elective (SCI) +	4
----------	Mathematics or Science Transfer Elective +	3
		16
	Third Semester	
EDUC 105	Pre-Service Academic Assessment (PAPA)Preparation	1
EDUC 260G	Adolescent Development & Cognition (WI)	3
----------	Social Science Transfer Elective (SIT) +	3
----------	Mathematics or Science Transfer Electives +	6
----------	Transfer Electives +	3
		16
	Fourth Semester	
ENGL 215G	Multicultural Adolescent Literature, (AH) (WI)(D)	3
----------	Social Science Transfer Elective (SSHB) +	3
----------	Mathematics or Science Transfer Electives +	6
----------	Transfer Elective +	3
		15
	Total Credits	**62**

+ Transfer Electives must be selected with the advice of an academic advisor so that courses will transfer to the student's intended transfer institution, and, correspond to the area of content the student will teach at the high school level. Refer to transfer guides.

- EDUC105 Pre-Service Academic Assessment (PAPA) Preparation course helps students to prepare for the standardized exam. The course is not otherwise AA/AS applicable and is not transferable.
- EDUC 260G and ENGL215G fulfill the Writing Intensive requirement. ENGL215G also fulfills the Diversity and Global Awareness elective.
- Taking both ENGL101C and ENGL151L satisfies the general education Computer Literacy Requirement.

Education - Special Education Paraeducator

Please note: Overview information for Education Majors can be found by clicking here.

Education & Academic Success

Degree awarded: Associate in Applied Science;
and Specialized Diplomas conferred

Special Education Paraeducator training at NCC video

Program Narrative

Special Education is an important and exciting career for persons interested in the education of children with disabilities! The federal Individuals With Disabilities Education Improvement Act (IDEIA) and related state laws and standards require personnel working with children with disabilities to be appropriately trained and qualified. Northampton Community College's special education program prepares students with the competencies necessary to meet these requirements. Grounded in a philosophy that emphasizes family and disability perspectives, inclusive practices, and current educational approaches, like Universal Design for Learning (UDL), NCC's special education program provides a valuable program of study.

Program Features

The Special Education Paraeducator (A.A.S.) degree is designed to prepare individuals to work with children with varying abilities in diverse educational classrooms, under the direct supervision of a certified teacher. A Special Education Paraeducator Specialized Diploma is also available. Students who successfully complete either option are considered "highly qualified" and satisfy the requirements for Pennsylvania's Credential of Competency for Special Education Paraeducators. NCC will assist students with the credentialing process.

Graduates are qualified to work as special education paraeducators, sometimes referred to as teaching assistants, in a wide variety of educational settings. Students are prepared to respect and value the unique perspectives of family and children with disabilities as well as the importance of building and maintaining collaborative relationships. To this end, NCC's curriculum offers a combination of special education coursework and field experience opportunities that integrate federal and state special education policy, standards, and professional competencies.

Special Education Courses are offered at the Bethlehem Campus during the day and evenings. SPED 160 is also offered at the Monroe Campus. All special education courses are offered online. Additional AAS required coursework can be taken day, evening, or through online options.

Program Outcomes

Graduates of the program will:

- Explain the philosophy, foundation, requirements, and current trends relevant to special education programs and practices.
- Describe universally-designed and inclusive environments.
- Apply appropriate instructional responses using multiple and varied assessments, technologies, strategies, and supports within a universally-designed and inclusive framework.
- Discuss the role and nature of collaborative relationships between schools and families.
- Define and use special education vocabulary, professionalism, and ethical practices, to support thinking and communicating in educational environments.
- Act as a paraeducator in diverse learning environments.

Special Education Paraeducator

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CISC 101	Intro to Computers	3
ENGL 101C	English I	3
PSYC 103	Introduction to Psychology (SSHB)	3
SPED 160	Introduction to Special Education	3
---------	Arts & Humanities Elective (AH) *	3
		15
	Second Semester	
CMTH 102	Speech Communication	3
ENGL 151L	English II (Literature)	3
EARL 106	Early Childhood Development & Learning	3
SPED 164	Introduction to the Special Education Paraeducator	3
SPED 175	Behavior Support	3

		15
	Third Semester	
MATH 118	Foundations of Mathematics I	3
SPED 170	Instructional Strategies in Inclusive Environments	3
PSYC 251	Child Psychology	3
SOCA 103	Principles of Sociology	3
----------	Elective *	3
		15
	Fourth Semester	
SPED 205G	Special Education Paraeducator Internship	3
----------	Science Elective (SCI)	4
----------	Social Science Elective: Societies and Institutions Over Time(SIT)	3
----------	Elective *	3
----------	Elective *	3
		16
	Total Credits	**61**

* Recommended Elective courses:
EARL 217 Child, Family & Community, EDUC 115 Education for All Students, MDLA 103 Elementary Spanish I, MDLA 113 Elementary Spanish II.

Special Education Paraeducator

Specialized Diploma

Course Code	Course Title	Credits
SPED 160 +	Introduction to Special Education +	3
SPED 164	Introduction to the Special Education Paraeducator	3
SPED 170	Instructional Strategies in Inclusive Environments	3
	Total Credits	**9**

+SPED 160 is a co- or prerequisite for SPED 164, and 170.
Career Potential: Paraeducator, teacher assistant

NCC students are employed by: Intermediate Units, Early Childhood Centers, School Districts

Electrical Construction Technology

Business & Technology

Degree awarded: Associate in Applied Science

Program Narrative

Electrical construction involves the installation, wiring and testing of electrical equipment in residential, commercial and industrial buildings. The work itself is both physically demanding and highly rewarding. It requires a strong working knowledge of wiring practices and the National Electrical Code, a basic knowledge of the equipment used in commercial applications, industrial processes and environmental controls. It also typically requires the completion of an accredited training program. Our associate degree program is more comprehensive than many electrical construction programs, and includes specialized training in PLCs, motor controls, and solar PV system installation. If you are interested in pursuing a career in Electrical Construction, our program can help you achieve your goal.

In addition to our Electrical Construction Technology associate's degree program, Northampton also offers a specialized diploma in Electrical Technology for students who wish to enter and grow in the profession.

Program Features

The program provides an in-depth study of electrical fundamentals, wiring techniques, and the National Electrical Code that is applicable to residential, commercial and industrial installations. We prepare our students to sit for municipal (PA) and state (NJ) electrician's license exams. The program also provides fundamental knowledge of a broad range of related technologies including electricity, HVAC, fiber optics, motor controls, and PLCs. This breadth of technical knowledge enables graduates to work on a variety of projects in construction, utility and manufacturing industries. Required general education courses round out the degree requirements to provide graduates with the ability to effectively communicate and interface with other employees, customers, suppliers and other organizations.

Courses are carefully scheduled so that you can earn the AAS degree in two years of full-time study. Alternatively, course work can be completed over a longer period during the evening on a part-time basis. Students can begin the program in the fall or spring.

Completion of the degree will prepare you to grow into positions of higher responsibility in the field. It will also enable you to transfer all course work to the following baccalaureate degree programs:

- B.S. Applied Management through Franklin University

- Bachelor of Applied Science in Technical Leadership through Bloomsburg University

Admission to the program is open to any student meeting the standard college entrance requirements. To complete the on-campus program in a timely basis, students should meet with the electrical program manager for advising prior to entering the program.

Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes

Graduates of the program will be able to:

- Describe the operation and application of commonly used electrical components and circuits.
- Demonstrate a basic framework of technical vocabulary and symbols.
- Demonstrate the application of commonly used methods of circuit analysis and theory.
- Test and troubleshoot electrical and electronic circuits.
- Properly use test equipment including oscilloscopes, DC power supplies, function generators, multi-meters, high voltage testers, and megohmmeters.
- Record, interpret and analyze data.
- Interpret technical information in the form of architectural drawings, schematics, specifications, graphs and procedure.
- Use a lab notebook in recording relevant and necessary project information.
- Demonstrate the ability to work both independently and as part of a team.
- Demonstrate written and oral communication skills.
- Demonstrate skills in reporting, analyzing, and researching technical information.
- Appreciate the breadth and dynamics of the electrical construction industry and be prepared to adapt to changes.
- Properly interpret and use the National Electric Code to perform electrical tasks.
- Demonstrate a thorough knowledge of the safety requirements involved in all phases of electrical work.

Electrical Construction Technology

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CISC 101	Introduction to Computers	3
CMTH 102	Speech Communication	3
EMEC 101	Electrical Fundamentals	3
EMEC 118	Hand and Power Tools	1
ENGG 117	Technical Drawings & Specifications	3
ENGL 101C	English I	3
		16
	Second Semester	
ELTC 107	Electrical Wiring I	3
EMEC135	Electrical Motors and Controls	4
ENGL 151T	English II (Technical Writing)	3
MATH 140	College Algebra	3
----------	General Education Elective +	3
		16
	Summer Session	
ELTC 265	Electrical Cabling **	3
		3
	Third Semester	
ELTC 109	Electrical Wiring II	3
EMEC 117	Industrial Rigging	1
EMEC 240	Industrial Control Systems I	4
HVAC 101	Fundamentals of HVAC/R I	4
PHYS 101	Physics I	4
		16
	Fourth Semester	
ELTC 222	Solar Photovoltaic Systems I	3
ELTC 211	National Electrical Code	4
ELTC 260G	Electrical Construction Practicum	2
OSAH 100	Industry Outreach Safety Education	1
----------	General Education Elective +	3

----------	Elective	3
		16
	Total Credits	**67**

** ELTC 265 is a Summer I class.
+ For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).

One of the electives should be designated as Diversity and Global Awareness (D).

Career Potential: Inside Wireman, VDV Installer/Technician, Residential Wireman

Electrical Technology

Business & Technology

Specialized Diploma conferred

Program Narrative

Technology used in industry today includes programmable logic controllers, robotics, electrical control and distribution panels, packaging equipment, and shop floor networks. These systems require constant maintenance and repair. That's why jobs continue to be available for well-trained electrical maintenance professionals.

If you need to re-train to improve your employment options, Northampton's specialized diploma is a convenient, fast-track program that can qualify you for immediate employment in the field. Experienced electrical students may also take tests to gain credit for their work experience, reducing the amount of class time needed to earn the diploma even further.

Our program provides the latest skills and knowledge needed to install, wire, repair and troubleshoot standard and programmable controller systems used in manufacturing. Graduates are qualified to work as an electrical maintenance technician, electrician or assistant both in manufacturing and in the electrical construction industry.

Program Features

The program begins by familiarizing students with the theory of electricity and its AC and DC characteristics, working safely with electricity, and basic circuit wiring. You will then gain practical knowledge and skills in working with industrial applications of motors, motor controls, and transformers. At the same time, you'll also be studying the various types of sensors and solid-state devices used in process control and becoming acquainted with the computer workstation used to program and debug today's process control systems.

The program is rounded out with two hands-on courses in programmable logic controllers (PLCs). These classes cover the skills you need to install, operate, program, network and troubleshoot the most popular types of PLCs. You will work as part of a team with the mechanical maintenance and production personnel to solve problems and implement solutions quickly to keep the operation running efficiently.

The program can be completed in its entirety part-time in the evening at Northampton's Main Campus. Daytime courses are available based on demand. If you're interested in continuing your education beyond the diploma, you can apply most of the course work towards the degree programs in Electromechanical Technology and Electrical Construction Technology.

View Gainful Employment information on the Electrical Technology specialized diploma.

Program Outcomes

Graduates of the Electrical Technology S.D. program will:

- Demonstrate an ability to work independently and collaboratively.
- Demonstrate safe electrical practices when working with electrical control and distribution equipment.
- Describe the operating principles and function of the electrical control and power components and circuits used in automated equipment.
- Demonstrate the proper use of common electrical diagnostic instruments.
- Operate, troubleshoot and diagnose common industrial circuits used in control and distribution.
- Analyze and present data in an acceptable and standardized manner.
- Demonstrate observational, integrative, and synthetic skills.
- Demonstrate a basic framework of technical vocabulary and graphic interpretation applicable to the area of electrical systems maintenance.
- Operate, program, troubleshoot, repair and modify programmable logic controllers and associated networks commonly found in industry.
- Size components and wire industrial control circuits based on appropriate industry standards.

Electrical Technology

Specialized Diploma

Course Code	Course Title	Credits
ELTC 107	Electrical Wiring I	3

EMEC 117	Industrial Rigging	1
EMEC 118	Hand and Power Tools	1
OSAH 100	Industry Outreach Safety Education	1
ELTC 109	Electrical Wiring II	3
ELTC 211	National Electrical Code	4
EMEC 101	Electrical Fundamentals	3
EMEC 135	Electrical Motors and Controls	4
EMEC 240	Industrial Control Systems I	4
----------	Technical Elective+	3
CISC 101	Introduction to Computers	3
	Total Credits	**30**

+ Technical Elective options: EMEC 245 Industrial Control Systems II or ELTC 222 Solar Photvoltaic Systems I

Career Potential: Industrial Electrician, Construction Electrician

Electromechanical Technology

Electromechanical Technology Automated Systems

Business & Technology
Degree awarded: Associate in Applied Science
Certificate and Specialized Diploma Conferred

Program Narrative

Industrial technology is a high priority occupation. The use of electromechanical automation to control manufacturing processes enables high productivity and competitiveness in the global economy. It also demands well-trained technicians who can service, maintain, install and retrofit this sophisticated equipment.

Northampton's Electromechanical Technology Automated Systems A.A.S. degree program is designed to prepare you to enter the maintenance or computer controlled manufacturing environment. Our graduates are qualified to work on such technology as robotics, material handling systems and pharmaceutical packagers as well as most machines and equipment that are controlled with programmable logic controllers.

You can choose to complete our specialized diploma in Machine Repair or our certificate in Instrumentation Process Control to enter the field more quickly. However, if you would like to add to your competitiveness or are considering furthering your education, Northampton's associate's degree in Electromechanical Technology is an excellent option.

Program Features

Northampton's Electromechanical Technology Automated Systems program curriculum was developed with the assistance of many of the area's leading manufacturers and engineering firms. The program was designed to meet the demands of local and national manufacturers for entry-level employees who have broad-based hands-on skills.

As a student in the program, you'll gain a strong understanding of basic electrical, mechanical and computer skills before actual hands-on exposure to programmable equipment and instrumentation. Industry experienced instructors introduce you to specific areas of expertise such as motor controls, fluid power, mechanisms, programmable logic controllers and industrial networks.

A capstone practicum course in electromechanical systems offers the chance to apply all of the specific areas of knowledge you've gained to solve problems within complex automation systems. The practicum course provides an internship experience with an employer, giving you first-hand experience in maintenance and plant engineering functions. As part of the associate's degree program, you will complete general education coursework that prepares you to better communicate and work with all departments within an organization. This can be vital if you wish to grow into a supervisory position.

Graduates of this program can transfer their coursework towards one of two online Bachelor of Science degrees: Applied Management through Franklin University or Industrial Management through California University of Pennsylvania. Check with your advisor for more information and options in course selection. Coursework can also be applied towards a Bachelor of Applied Science in Technical Leadership through Bloomsburg University with all Bloomsburg courses taught at Northampton Community College.

Student Learning Outcomes

Students who complete the Electromechanical Technology Automated Systems program will be able to:

- Demonstrate an ability to work independently & collaboratively.
- Demonstrate competent speaking skills when working with diverse groups.
- Describe the operation and application of commonly used automated technology and instrumentation used in modern manufacturing and processing.

- Demonstrate observational, integrative and synthetic skills.
- Demonstrate proficient research and computer skills in data gathering and analysis.
- Demonstrate a basic framework of technical vocabulary and graphics interpretation applicable to the area of equipment maintenance and design.
- Describe the principles and function of the mechanical, electrical and fluid power components and assemblies used in automated equipment.
- Operate, program, troubleshoot, repair and modify programmable automation equipment and associated components commonly found in industry.
- Demonstrate the proper use of common tools and measuring gages used in automated systems.
- Apply mathematics to solving equipment related problems.
- Analyze and present data in an acceptable and standardized manner.
- Demonstrate the use of OSHA safety standards in servicing electromechanical equipment.
- Demonstrate competent technical writing skills.

Endorsed by Local Employers

Potential employers for those following this electromechanical technology pathway include:

- Manufacturers
- Construction Companies
- Automated Equipment Integrators

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Skip Todora, at 610.861.5319 or jtodora@northampton.edu or the Admissions Office at 610.861.5500 for more information.

Electromechanical Technology Automated Systems

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
EMEC101	Electrical Fundamentals	3
EMEC125	Process Automation Diagrams – P&ID	2
EMEC140	Sensors, Wiring and Troubleshooting	1
ENGG117	Technical Drawings and Specifications	3
ENGL101	English I	3
MATH140	College Algebra	3
OSAH100	Industry Outreach Safety Education	1
		16
	Second Semester	
EMEC105	Introduction to Fluid Power	3
EMEC110	Mechanical Components	4
EMEC130	Introduction to Process Control	3
EMEC135	Electrical Motors and Controls	4
ENGL151T	English II (Technical Writing)	3
		17
	Third Semester	
CMTH102	Speech Communication	3
EMEC220	Instrumentation I	3
EMEC240	Industrial Control Systems I	4
EMEC251	Mechanical Systems	3
PHYS101	Physics I	4
		17
	Fourth Semester	
EMEC225	Instrumentation II	3
EMEC245	Industrial Control Systems II	3
EMEC260G	Electromechanical Technology Practicum	2
_____	General Education Elective	3
_____	General Education Elective	3
_____	Elective	3
		17
	Total Credits	**67**

- For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institution over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Completion of EMEC 260G satisfies the Writing Intensive (WI) requirement.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

Career Potential: Electromechanical Technician, Industrial Maintenance Technician, Instrumentation Technician, Maintenance Supervisor.

Instrumentation Process Control Technician

Business & Technology
Degree Awarded: Certificate

Program Narrative

Northampton's Instrumentation Process Control program is designed to prepare you to enter a career in automated manufacturing. The Instrumentation Process Control certificate program offers coursework for a student wishing to complete their studies within three semesters or advance your current machinery repair skills to the next level. The program also provides course offerings that prepare you to work as a team player in a specialized manufacturing environment. Your studies will include state-of-the-art process control equipment and principles from the International Society of Automation (ISA). You will learn the marketable skills required to work effectively within a manufacturing environment with a strong emphasis on the development of professional attitudes, values, and ethics. As you progress through the program, you'll gain critical thinking and decision-making skills needed in today's quality-oriented business environment. Graduates of this certificate program can gain employment and then pursue NCC's Electromechanical Technology Automated Controls associate degree program. This program will be of benefit to those who are seeking a position in manufacturing process control as an instrument technician or those who are seeking to change careers. It is also useful for production technicians in need of updated skills.

Program Features

This program prepares you for the responsibilities and challenges expected of a skilled tradesperson in a manufacturing setting. Students will gain the knowledge and understanding of basic instruments used to measure temperature, pressure, flow and level. Along with troubleshooting skills, you will gain knowledge of installing, calibrating, and tuning a wide array of control loops and understanding and applying Proportional-Integral-Derivative (PID) control algorithms. This is all accomplished with extensive hands-on lab activities using actual equipment that is used in the field, and computer technology to aid in the diagnostic process Courses for the Instrumentation Process Control certificate program include Electrical Fundamentals, Introduction to Process Control, Industrial Control Systems I & II, and Instrumentation I & II. All of the courses in the certificate can be applied to the Electromechanical Technology Automated Systems associate degree program.

Program Outcomes

Graduates of the Instrumentation Process Control program will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Analyze and present data in an acceptable and standardized manner.
- Demonstrate a basic framework of technical vocabulary and graphics interpretation.
- Demonstrate an understanding of basic principles and theories related to improving process control.
- Analyze and troubleshoot mechanical and electrical problems.
- Demonstrate observational, integrative, and synthetic skills.
- Demonstrate the proper use and care of instrumentation equipment.
- Understand the mechanics and operation of equipment measuring temperature, pressure and flow.
- Use data to analyze and to avoid failures.

Endorsed by Local Employers

Potential employers for those following this Instrumentation pathway include:

- Food Manufacturers
- Pharmaceutical Manufacturers
- Chemical Manufacturers

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Skip Todora, at 610.861.5319 or jtodora@northampton.edu or the Admissions Office at 610.861.5500 for more information.

Instrumentation Process Control Technician

Certificate

Course Code	Course Title	Credits
	First Semester	
EMEC101	Electrical Fundamentals	3
EMEC125	Process and Automation Diagrams – P&ID	2
EMEC130	Introduction to Process Control	3
MATH140	College Algebra	3
		11
	Second Semester	
ENGL101	English I	3
EMEC140	Sensors, Wiring and Troubleshooting	1
EMEC240	Industrial Control Systems I	4

EMEC220	Instrumentation I	3
		11
	Third Semester	
EMEC225	Instrumentation II	3
EMEC245	Industrial Control Systems II	3
PHYS101	Physics I	4
		10
	Total Credits	**32**

Career Potential: Chemical Equipment Maintenance, Biotech Equipment Maintenance, Electromechanical Equipment Assembler, Control Valve Installer/Repairer, Maintenance Technician, Water Waste Treatment Systems Maintenance.

Machine Repair - Automated Systems

Business & Technology
Degree Awarded: Specialized Diploma conferred

Program Narrative

Northampton's Machine Repair specialized diploma is designed to prepare you to enter a manufacturing position in a short time frame or advance your current skills to the next level. Your studies will include mechanical and electrical maintenance and repair practices as they apply to a wide range of industrial machinery and plant equipment. As you progress through the program, you'll gain critical thinking and decision-making skills with a strong emphasis on the development of professional attitudes, values, and ethics which are required in today's quality-oriented business environment. Graduates of this specialized diploma program can gain employment and then pursue NCC's Instrumentation Process Control certificate or Electromechanical Technology Automated Systems associate degree programs. This program will be of benefit to those who are seeking an entry level position in industrial maintenance or those who are seeking to change careers. It is also useful for those in need of updated mechanical troubleshooting skills.

Program Features

This program prepares you for the responsibilities and challenges expected of a skilled tradesperson in a manufacturing setting. Responsibilities of an industrial mechanic include the ability to read and interpret blueprints, demonstrate an understanding of electrical principles, the application of troubleshooting principles, and OSHA guidelines. The program may be completed in as little as two semesters of full time study or on a part-time basis on the College's Main Campus. Courses for the Machine Repair program include Electrical Fundamentals, OSHA, Introduction to Fluid Power, Mechanical Systems, and Sensors, Wiring and Troubleshooting. Most of the courses in the specialized diploma can be applied to the Electromechanical Technology Automated Systems associate degree program.

View Gainful Employment information on the Machine Repair certificate program.

Program Outcomes

Graduates of the Machine Repair specialized diploma program will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Demonstrate an understanding of electrical principles and practices.
- Analyze and present data in an acceptable and standardized manner.
- Demonstrate a basic framework of technical vocabulary.
- Demonstrate the proper use and care of common hand and mechanical tools.
- Analyze and troubleshoot mechanical and electrical problems.

Endorsed by Local Employers

Potential employers for those following this machine repair pathway include:

- Manufacturers
- Construction Companies
- Gas Line Companies
- Production Plants

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Skip Todora, at 610.861.5319 or jtodora@northampton.edu or the Admissions Office at 610.861.5500 for more information.

Machine Repair - Automated Systems

Specialized Diploma

Course Code	Course Title	Credits
	First Semester	
EMEC101	Electrical Fundamentals	3
EMEC105	Introduction to Fluid Power	4
EMEC118	Hand and Power Tools	1
ENGG117	Technical Drawings and Specifications	3
OSAH100	Industrial Outreach Safety Education	1
		12
	Second Semester	
EMEC110	Mechanical Components	4
EMEC135	Electrical Motors and Controls	4
EMEC140	Sensors, Wiring and Troubleshooting	1
EMEC251	Mechanical Systems	3
		12
	Total Credits	**24**

Career Potential: Machine Repairer, Industrial Machinery Mechanic, Maintenance Mechanic, Field Service Technician.

Electronics Technology

Business & Technology

Degree awarded: Associate in Applied Science;
Specialized Diploma conferred

Program Narrative

Today's high technology companies want to hire well-rounded electronics technicians who can help their businesses grow profitably. Northampton's Electronics Technology program integrates comprehensive electronic circuit theory with practical hands-on lab work. Students develop solid troubleshooting skills using modern industry-quality instruments.

Northampton graduates are employed in areas such as manufacturing, installation, repair, operation, and product design. Other graduates choose power generation, industrial control, or sales. Employers value Northampton graduates because they are well-trained and can step right in to resolve many design and application problems.

Program Features

Our program is based on continuous industry input and evaluation of electronics programs nationwide. The result is a practical curriculum that emphasizes a strong foundation in electronics fundamentals while developing skills critical to success in the field. Your studies will include:

- **Core Coursework:** Two semesters of DC/AC circuit analysis, digital electronics, and solid state devices; one semester of linear integrated circuits and microprocessors.
- **Mechanical Skills:** Courses include Electronics Manufacturing, Mechanical Skills, and Team Projects.
- **Computer Skills:** We emphasize applications such as MultiSIM, MS Word, Excel, PowerPoint, and AutoCAD.
- **Communication Skills:** Your reading, writing, and presentation skills, as applied to technical topics, will be developed over the course of the program.
- **Project Work:** Integrated into all semesters.

Upon graduation, you will be well prepared to enter and advance in the workforce, or you may choose to continue your education toward a four-year bachelor of science degree in electronics technology. We have relationships that can create smooth transitions at institutions such as Bloomsburg University (BS in Electrical and Electronic Technology), Pennsylvania State University (Harrisburg Campus), Pennsylvania College of Technology (Williamsport), New Jersey Institute of Technology (Newark, NJ), Rochester Institute of Technology (Rochester, NY), or at many other colleges and universities.

Students completing this program may also complete their Bachelor of Science degree in Applied Management through Franklin University by completing approximately 24 additional course credits at NCC and an additional 40 course credits through Franklin University's online courses. Check with your advisor for more information and options in course selection.

We carefully schedule the program's courses so that you can earn the A.A.S. degree in two years of full-time study. Students generally begin the program in August. You can also complete your degree in four years through evening part-time study. An attractive option for many students is to complete the A.A.S. degree through part-time evening study, with employers supporting the continuing education through tuition reimbursement.

View Gainful Employment information on the Electronics Technology specialized diploma.

Program Outcomes

Graduates of the program will:

- Prototype, evaluate, and assist in the design of electronic circuits using fundamental analog and digital concepts.
- Fabricate electronic circuit layouts and electromechanical prototypes.
- Use computer technology to conduct research, analyze data, simulate circuit performance, design circuits, program microprocessors, and document findings.
- Select and operate electronic test equipment such as digital multimeters, oscilloscopes, power supplies, and function generators to test and troubleshoot analog and digital circuits.
- Apply mathematics and reasoning to predict electronic circuit performance and to analyze data.
- Effectively speak, write, and graphically illustrate the discourse of electronics technology.
- Work both independently and as a contributing member of an effective team.
- Use applied research, critical thinking, and problem solving skills to support lifelong professional development.

Electronics Technology

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
ELEC 101	DC/AC Circuit Analysis I	4
ELEC 121	Technical Computer Applications	2
ELEC 177	Electronics Manufacturing I	2
ENGL 101C	English I	3
MATH 140	College Algebra	3
----------	General Education Elective	3
		17
	Second Semester	
CMTH 102	Speech Communication	3
ELEC 126	Digital Electronics I	3
ELEC 151	DC/AC Circuit Analysis II	4
ELEC 155	Introduction to Solid State Devices	2
EMEC 115	Mechanical Skills for Technicians	1
ENGL 151T	English II (Technical Writing)	3
		16
	Third Semester	
ELEC 207	Solid State Circuits	4
ELEC 208	Digital Electronics II	3
ENGG 100	Engineering Graphics	3
PHYS 101 or	Physics I or	
CHEM 120	General Chemistry I	4
		14
	Fourth Semester	
ELEC 226	Microprocessors I	3
ELEC 230	Team Project	2
ELEC 232	Linear Integrated Circuits	4
----------	General Education Elective	3
----------	Elective	3
		15
	Total Credits	**62**

- For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH), Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- One General Education Elective must be taken in a Writing Intensive (WI) section.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement.

NOTE: Students planning to transfer to BS in Electrical Engineering Technology programs should consult with the 4-year institution and the program advisor before selecting courses.

Electronics Technology

Specialized Diploma

Course Code	Course Title	Credits
	First Semester	
ELEC 101	DC/AC Circuit Analysis I	4
ELEC 121	Technical Computer Applications	2
ELEC 177	Electronics Manufacturing I	2
MATH 140	College Algebra	3
		11
	Second Semester	
ELEC 126	Digital Electronics I	3
ELEC 151	DC/AC Circuit Analysis II	4
ELEC 155	Introduction to Solid State Devices	2
EMEC 115	Mechanical Skills for Technicians	1
		10
	Total Credits	**21**

Career Potential: Senior Electronics Technician

Emergency Services Administration

Allied Health & Sciences

Degree awarded: Associate in Applied Science

Program Narrative

Whether an emergency is the result of a natural disaster or man-made, governments, schools, hospitals and industry need to be able to respond effectively. Emergency Services administrators are the managers who are charged with meeting this important challenge by providing fire, police, emergency medical services and more. Northampton's associate's degree is open to all qualified applicants. If you are an experienced first responder interested in advancing your career, this program could be an excellent option for you. Individuals employed in the private sector as safety officers or security professionals can also develop and strengthen their capabilities and effectiveness by completing this program.

Northampton's graduates are employed in positions with job titles such as emergency management coordinator, deputy or assistant emergency management coordinator, public safety director, emergency operations director, fire fighter, emergency medical technician, law enforcement official, safety professional or security coordinator.

Program Features

Our program and course content has been developed to be congruent with concepts established by the Federal Emergency Management Agency (FEMA), Pennsylvania Emergency Management Agency (PEMA) and local emergency planning committees. Courses emphasize an interoperable approach to the total cycle of emergency management. We develop your administrative skills, including accounting and human resources management, so that you can function at an operational level within an emergency response organization or agency. Required General Education courses round out your training so that you are equipped to communicate well with diverse staff and the community.

Program Requirements

The Emergency Services Administration degree contains provisions for a free elective of three credits in addition to the General Education electives. This program can be completed in the day or evening, on a full-time or part-time basis.

Program Outcomes

Graduates of the program will:

- Demonstrate an understanding of administrative principles as they relate to accounting/finance and management.
- Apply emergency service and public safety skills as they relate to agency/organization operations.
- Acquire and demonstrate strong presentation and communication skills.
- Acquire and practice an understanding of ethics and legal responsibility as they pertain to the gravity of emergency response and public safety.
- Work effectively in both individual and team environments.
- Design and implement a cohesive administrative strategy, effectively combining all elements of successful business practice.
- Employ critical thinking and problem solving techniques relevant to emergency situations.

Emergency Services Administration

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CISC 101	Introduction to Computers	3
CMTH 102	Speech Communication	3
EMGS 120	Emergency Services Health and Safety	3
ENGL 101	English I	3
MATH 150	Introduction to Statistics	3
		15
	Second Semester	
EMGS 122	Emergency Action Planning	3
EMGS 231	Law for Emergency Services	3
ENGL 151R	English II (Report Writing)	3
----------	General Education Elective (AH)	3
----------	General Education Elective (SSHB)	3
		15
	Third Semester	
ACCT 101	Financial Accounting I	3
BUSA 226	Human Resource Management	3
EMGS 217	Public Information and Relations	3
EMGS 221	Emergency Service Management	3
POLS 251	State and Local Government (SIT)	3
		15
	Fourth Semester	
BUSA 152	Business Law	3
EMGS 216	Emergency Fiscal Administration	3
EMGS 218	Incident Command and Management	3
EMGS 219	Regulatory Compliance	3
----------	Elective	3
		15
	Total Credits	**60**

- For the General Education Electives, students must select one course from the list of approved courses in each of the following categories: Arts & Humanities (AH) and Social Science: Scientific Study of Human Behavior (SSHB).
- One General Education Elective must be taken in a Writing Intensive (WI) section, and one should be designated as Diversity and Global Awareness (D).

Career Potential: Emergency Management Coordinators, Fire Officer, Law Enforcement Officer, Emergency Medical Supervisor, Safety and Security Director, Corrections Officer, Emergency Management Specialist, Emergency Response Manager

Emergency Services Technology

Allied Health & Sciences

Degree awarded: Associate in Applied Science;
Specialized Diploma conferred

Program Narrative

In the emergency services professions, masterful skills and attention to detail aren't just job assets: they save lives.

NCC's Emergency Services Technology program trains you to carry out safely and effectively the difficult and dangerous duties of saving lives and property. The program is primarily designed for recent high school graduates who are interested in emergency services, and those who are already serving with an Emergency Response agency and want to enhance their skills.

Please Note: Students are required to supply their own NFPA compliant turn-out-gear and self-contained breathing apparatus.

Program Features

A number of program electives are available to allow you to select and focus on your area of personal interest. You will learn the professional techniques you need to meet the challenges in your specific area. In addition, you will take courses in general education to help give you a broader understanding of the type of work for which you are preparing. To help students and graduates stay up-to-date, we will announce through the program special "brush-up" and recertification seminars in EMT, CPR, and other related offerings.

Enrollment in the EMT program is limited and priority will be given to students who are affiliated with a state-recognized Emergency Services program.

You can enter this program any given semester and can complete it within four years by attending evening classes on a part-time basis.

Program Outcomes

Graduates of the program will:

- Apply interoperable emergency response and decision making skills to achieve positive outcomes.
- Demonstrate functionality as it relates to emergency response information technology.
- Function within nationally recognized guidelines and/or standards as an interoperable emergency first responder.
- Apply emergency service and public safety skills as they relate to mitigation, preparedness, response, and recovery operations.
- Develop an interoperable management approach in the various segments of emergency services, Public Safety (Fire/Emergency Medical), and the Private Sector (Industry).
- Discuss ethical, moral, and legal issues associated with emergency response environments and be able to apply these concepts within the context of expected behavior.

Emergency Services Specialist

Specialized Diplomas conferred

Program Narrative

The demand for well-trained people in the emergency services field is ongoing and the employment outlook is very good. NCC's Emergency Services Specialist diploma program was created to respond to the workforce needs of our region and is unique in Northampton County.

The program provides an opportunity for anyone wanting to enter or advance quickly in this challenging career field. The program is an excellent option for people currently employed as emergency service personnel who want additional training and education for professional advancement or for personal growth in the profession.

Please Note: Students are required to supply their own NFPA compliant turn-out-gear and self-contained breathing apparatus.

Program Features

If you are interested in a fast-track option, our Emergency Services Specialist program provides an alternative level of achievement in a shorter period of time compared to our associate's degree program. The curriculum includes five required courses (16 credits) and nine credits of EMGS elective courses allowing you to tailor the program to your individual goals and interests. Electives include firefighting courses, rescue courses, Emergency Medical Technician courses, and management courses.

After you've completed the specialized diploma, you may choose to continue your studies. In this case, you can apply all of your specialized diploma courses toward an associate degree program or transfer your credits to another institution. All of the courses in the specialized diploma curriculum are offered as part of the current degree program.

The program can be completed on a part-time schedule.

View Gainful Employment information on the Emergency Services Specialist specialized diploma.

Contact the Admissions Office at 610-861-5500 for further information.

Program Outcomes

Graduates of the program will:

- Apply interoperable emergency response and decision making skills to achieve positive outcomes.
- Demonstrate functionality as it relates to emergency response information technology.
- Function within nationally recognized guidelines and/or standards as an interoperable emergency first responder.
- Apply emergency service and public safety skills as they relate to mitigation, preparedness, response, and recovery operations.
- Develop an interoperable management approach in the various segments of emergency services, Public Safety (Fire/Emergency Medical), and the Private Sector (Industry).
- Discuss ethical, moral, and legal issues associated with emergency response environments and be able to apply these concepts within the context of expected behavior.

Emergency Services Technology

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
EMGS 104	Essentials of Firefighting and Emergency Response	4
EMGS___	Program Elective +	3
ENGL 101	English I	3
MATH 103	Applications in Mathematics	3
----------	General Education Elective	3
		16
	Second Semester	
CMTH 102	Speech Communication	3
EMGS 151	Fire Prevention	3

EMGS___	Program Elective +	3
ENGL 151R	English II (Report Writing)	3
----------	General Education Elective	3
		15
	Third Semester	
CISC 101	Introduction to Computers	3
EMGS 221	Emergency Service Management	3
EMGS 231	Emergency Service Law	3
----------	General Education Elective	3
----------	Elective	3
		15
	Fourth Semester	
EMGS 201	Hazardous Materials	3
EMGS___	Program Electives +	9
----------	General Education Elective	3
		15
	Total Credits	**61**

+ Program electives are restricted to courses with an EMGS prefix.

- For the General Education Electives, students must select one course from the list of approved courses in each of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB); Science (SCI) - PHYS 152 is recommended.
- One course should be designated as Diversity and Global Awareness (D).
- One General Education Elective must be taken in a Writing Intensive (WI) section.

Emergency Services Technology - Emergency Services Specialist

Specialized Diploma

Course Code	Course Title	Credits
EMGS 104	Essentials of Firefighting and Emergency Response	4
EMGS 151	Fire Prevention	3
EMGS 221	Emergency Services Management	3
EMGS 231	Emergency Services Law	3
EMGS 201	Hazardous Materials	3
EMGS___	Program Electives +	9
	Total Credits	**25**

+ Program electives are restricted to courses with an EMGS prefix.

Emergency Services Technology -Emergency Medical Technician

Specialized Diploma

Course Code	Course Title	Credits
EMGS 115	Emergency Medical Technician	6
	Total Credits	**6**

Career Potential: Emergency Services Technician, Emergency Medical Technician, Firefighter

NCC students have transferred to: Holy Family College, Franklin University

Engineering

Business & Technology

Degree awarded: Associate in Science

Program Narrative

Northampton's Engineering program is designed primarily for transfer to a baccalaureate degree program in engineering. If your goal is to earn a bachelor's degree in engineering, our program can be an affordable and convenient way to get started. Many of our students transfer and complete degrees at Lehigh and Drexel Universities, Lafayette College, Penn State, Rutgers, Northeastern and many other engineering schools. By beginning your studies at Northampton, you could save thousands of dollars.

If you plan to transfer to a four-year institution, we encourage you to check with that institution to see what its requirements are. Then carefully select your courses here with the help of an advisor to be sure that they will meet your transfer school's requirements. Historically, our transfer students generally perform as well or better in their transfer school as they did when they were enrolled at Northampton.

As a graduate of our program you may also choose to transfer into engineering technologies or go directly into industry in a position that requires math, science, and computing skills.

Program Features

Engineering students at Northampton take courses designed to develop skills common to all engineering specialties - chemical, civil, electrical, mechanical, and more. Our curriculum parallels that of the first two years in typical engineering schools.

Your professors are full-time and will conduct both the lecture and lab segments of your studies. You can also look forward to small class sizes, which ensures personal attention when you need it. As part of our program, you will have access to a full range of student services, including career and personal counseling, transfer counseling, tutoring, and job placement.

More importantly, you may study full-time or part-time. Courses in this program are offered primarily during the day; however, many have evening sections.

Program Requirements

Engineering is one of the most demanding and challenging of all college majors. Most students pursuing an engineering degree have strong background in math (algebra, geometry, trigonometry, pre-calculus), physics, and chemistry. If you feel you need help or haven't had classes in these areas, NCC advisors can help you schedule specific courses to prepare you for engineering study.

For further information contact the Admissions Office at 610-861-5500 or e-mail us at engineering@northampton.edu .

Program Outcomes

Graduates of NCC's Engineering Program will:

- Transfer to a four-year engineering program in any engineering discipline.
- Move directly into industry in a position requiring math, science, and computing skills.
- Demonstrate an ability to work independently and collaboratively as a team.
- Demonstrate basic skills common to all engineering specialties.
- Effectively research and collect data using various published resources and the Internet.
- Analyze and present data in an acceptable, methodical, and standardized manner.
- Demonstrate competent technical knowledge in engineering-related areas.
- Demonstrate competent speaking skills when working with diverse groups.
- Demonstrate observational, integrative, and synthetic skills.
- Demonstrate a basic framework of technical vocabulary and graphical interpretation skills.
- Successfully apply mathematics (algebra, trigonometry, geometry and calculus) to solving engineering problems.

Engineering

Associate in Science Degree

Course Code	Course Title	Credits
	First Semester	
CHEM 120	General Chemistry I	4
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
MATH 180	Calculus I	4
		14
	Second Semester	
CISC 115	Computer Science I	4
ENGL 151L	English II (Literature)	3
MATH 181	Calculus II	4
PHYS 215	Physics for Science & Engineering I	5
		16
	Third Semester	
MATH 210	Calculus III	4
PHYS 225	Physics for Science & Engineering II	5
----------	Engineering Elective +	3/4
----------	Technical Elective ++	3/4
		15/17
	Fourth Semester	
MATH 211	Differential Equations	4
----------	Engineering Elective +	3/4

----------	Arts & Humanities Elective (AH)	3
----------	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
----------	Social Science: Societies and Institutions over Time Elective (SIT)	3
		16/17
	Total Credits	**61/64**

+ Engineering Elective options: ENGG 201, 251, 252, 191, 192, 193, 194 or a course approved by the Engineering Department.
++ Technical Elective options: any Engineering Elective (above list); ENGG 100; CHEM 201, 220; CISC 125, 230; or a course approved by the Engineering Department.

- One course should be designated as Diversity and Global Awareness (D).
- One General Education Elective (AH, SIT or SSHB) must be taken in Writing Intensive (WI) section. The program-related writing intensive competency is satisfied by the combination of PHYS 215 and PHYS 225.
- All electives must be chosen from the list of courses which are applicable to AA and AS degrees.

Career Potential: Transfer program, leading to Engineer

NCC students have transferred to: Lehigh University, Lafayette College, Drexel University, Pennsylvania State University, Rutgers University, Northeastern University, and others . . .

Environmental Science

Allied Health & Sciences

Degree awarded: Associate in Science

Program Narrative

As an Environmental Science student, you will experience a broad and dynamic field that unites a number of disciplines so you can understand the biologic, hydrologic, geologic, and atmospheric components of the Earth and the role of human beings on the Earth. In addition, an information explosion has occurred in Environmental Science that will provide you with opportunities in many facets of the field. With a curriculum that parallels the first two years of most four-year programs, NCC can provide you will the foundational knowledge and skills in this expanding area of science in preparation for transfer to a four-year college or university program.

NCC's program can be customized to prepare you for the range of majors and fields that are based in the environment, including laboratory sciences, wildlife conservation, resource management, environmental law, human ecology, and more. By working closely with an advisor, you can choose the right electives, and stay on track with the requirements of the transfer college of your choice.

Program Features

Northampton has close articulation agreements with a variety of colleges; these agreements will enable you to transfer from NCC to the four-year institution you select. You will receive close advising, and, based on your performance, you are assured easy transfer of your credits. Students graduating from NCC often transfer to baccalaureate institutions such as East Stroudsburg University, Cedar Crest College, and the State University of New York-College of Environmental Sciences and Forestry.

Program Requirements

Successful students in this program have taken sufficient math and chemistry in high school. Students who come to NCC without these previous experiences, can take courses to prepare for the more advanced math and science required in the program. We recommend that you take the necessary preparatory classes prior to, or during your first semester.

Program Learning Outcomes

Graduates of the program will:

- Understand fundamental concepts of Environmental Science, interrelating the functions of living and nonliving systems and the role of humans in the environment.
- Demonstrate oral and written communication skills necessary for sharing discipline-specific knowledge and communicating professionally.
- Conduct scientific inquiry and research on environmental topics as those topics relate to science, technology, and society.
- Proficiently function in laboratory and field settings, demonstrating proper field techniques and using modern scientific instrumentation, including sampling and measuring devices as well as computer technology.
- Demonstrate understanding of the fundamentals of environmental safety to ensure both personal and group safety.
- Understand the use of the scientific method to interpret scientific data and make policy recommendations based on the data.

Environmental Science

Associate in Science Degree

Course Code	Course Title	Credits
	First Semester	
BIOS 107	Biology I	4
CHEM 120	General Chemistry I	4
ENGL 101	English 1	3
----------	Mathematics Elective (QL) +	3
----------	Environmental Concepts Elective ++	3/4
		17/18
	Second Semester	
BIOS 150	Biology II	4
CHEM 220	General Chemistry II	4
ENGL 151L	English II (Literature)	3
CMTH 102	Speech Communication	3
----------	Mathematics Elective (QL) +	3
		17
	Third Semester	
BIOS 206	General Ecology	4
CHEM 201G	Organic Chemistry I	4
----------	Environmental Concepts Elective++	3/4
----------	General Education Elective	3
		14/15
	Fourth Semester	
BIOS 210	Environmental Biology	4
CHEM 251	Organic Chemistry II	4
----------	Environmental Concepts Elective++	3/4
----------	General Education Elective	3
		15/16
	Total Credits:	**62/65**

+ Mathematics Elective options: MATH 140, 145, 150, 160, 175, 176, 180, 181, 210, 211. To insure transfer, electives should be selected to meet the requirements of the appropriate transfer institution.

++ Environmental Concepts Electives: Students are required to take three electives from among the following courses: BIOS 220, 230, GEOG 121, 140, 271, GEOL 201, HUMA 150. To insure transfer, electives should be selected to meet the requirements of the appropriate transfer institution.

- For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT) and Social Science: Scientific Study of Human Behavior (SSHB).
- One course must be designated Diversity (D).
- Completion of CHEM 201G satisfies the program-related Writing Intensive (WI) requirement. In addition, one General Education Elective course must be taken in a Writing Intensive (WI) section.
- Computer competencies are included in various program courses. Thus, completing the program automatically satisfies the computing requirement for this program.

Fine Art

Humanities & Social Sciences

Degree awarded: Associate in Arts

Program Narrative

Northampton's Fine Art Program is a transfer degree meant to parallel the first two years of a bachelor's degree. The program provides students with a thorough introduction to the basic areas of study in the visual arts. We help you develop a strong set of foundation skills for future artistic growth.

Upon successful completion of our program, you will have a clear understanding of the core technical, conceptual and aesthetic issues involved in creating successful works of art. You also will have prepared a portfolio, drawn from examples of your course work, for transfer to a four-year baccalaureate program (B.A. or B.F.A.) at a college, university or art school.

In NCC's well-equipped studio facilities you will have the opportunity to explore the arts in small classes with close student-instructor interaction. In your fourth semester, studio time will increase greatly to allow you to hone your talents while working on art projects for credit. Also during this semester, you will have the chance to consult one-to-one with a professional artist from a gallery in New York City, who will examine and critique your work. Courses in this program are offered primarily during the day.

Program Features

First year art offerings include Drawing I, Drawing II, Principles of 2-D Design & Color, and Principles of 3-D Design. These courses emphasize essential skills for studying all of the visual arts. You will also take introductory courses in Art History, Computer Graphics, and Painting. Advanced Drawing and Painting follow, along with additional choices in 2-D and 3-D media such as Photography, Printmaking, Sculpture, and Ceramics. In the final semester, Media Art features a synthesis of traditional art techniques and experimental digital technology.

During the final capstone course, Individual Studio/Professional Practices, you have the opportunity and personal challenge of synthesizing your accumulated experience and knowledge into a highly individualized series of artworks for a final group exhibition. You may also maintain an extensive sketchbook/journal and use this resource for writing assignments and studio work. The program also expands your knowledge of the professional fine art world through visits to museums, galleries, and art centers in New York City, Philadelphia, and the Lehigh Valley. There, you will speak with artists, curators, gallery directors, and art museum personnel who will share their wealth of experience.

Program Requirements

Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes

Graduates of the program will:

- Create artworks using basic art *media,* demonstrating core techniques, with proficient craftsmanship.
- Utilize *design*, i.e. the elements of art and principles of organization, in the creation of successful artworks.
- Demonstrate *creativity,* by synthesizing knowledge and imagination in form, style, and content.
- Recognize and use the technical and aesthetic *terminology* of the fine arts.
- Develop and use *critical thinking* skills to analyze artworks, both in speaking and writing.
- Have prepared a comprehensive portfolio of high quality artworks for transfer to four-year colleges, universities, or art school.

Fine Art

Associate in Arts Degree

Course Code	Course Title	Credits
	First Semester	
ARTA 101	Art History Survey	3
ARTA 107	Drawing I	3
ARTA 111	Principles of 2-D Design and Color	3
ARTA 170	Computer Graphics	4
ENGL 101	English I	3
		16
	Second Semester	
ARTA 110	Principles of 3-D Design	3
ARTA 124	Drawing II	3
ARTA 158	Painting I	3
CMTH 102	Speech Communication	3
ENGL 151L	English II (Literature)	3
		15
	Third Semester	
ARTA 162 or ARTA 161	Sculpture or Ceramics	3
----------	Studio Elective +	3
----------	Studio Elective +	3
----------	Science Elective (SCI)	3/4
----------	Social Science: (WI) Societies and Institutions over Time Elective (SIT)	3
		15/16
	Fourth Semester	
ARTA 220	Media Art	3
ARTA 260	Individual Studio/Professional Practices	4
MATH 120	The Nature of Mathematics	3
----------	Studio Elective +	3
----------	Social Science: (WI) Scientific Study of Human Behavior Elective (SSHB)	3
		16
	Total Credits	**62/63**

- The electives specified above must be taken from the list of approved courses in each of the categories.
- One course should be designated as Diversity and Global Awareness (D).
- Students must take two General Education Electives (SIT, SSHB or SCI) in Writing Intensive (WI) sections. WI course sections are identified with a "G" following the course number.

- Computer competencies are included in various courses in this program, specifically ARTA 111, 170, and 220. Thus, completing the program automatically satisfies the computing requirement.

+ Complete a total of three (3) Studio Electives from among: ARTA164 Printmaking; ARTA204 Drawing II; ARTA226 Painting II; ARTA251 Black & White Photography; ARTA 282 Digital Photography

Career Potential: Transfer program for artists, art educators, and visual art related careers

NCC FINE ART students have transferred to: Kutztown University, East Stroudsburg University, Millersville University, Moravian College, Cedar Crest College, University of the Arts (UArts), Tyler School of Art/Temple University, School of Visual Arts (SVA), Pennsylvania Academy of the Fine Art (Pafa), School of Visual Arts (SVA), The Cooper Union for the Advancement of Science and Art, Pratt Institute, Parsons The New School for Design, Fashion Institute of Technology (FIT), Maryland Institute College of Fine Art (MICA), Savannah College of Art and Design (SCAD), Herron School of Art and Design - Indiana University, Massachusetts College of Art, Rhode Island School of Design (RISD), School of the Art Institute of Chicago (SAIC).

Funeral Service Education

Allied Health & Sciences

Degree awarded: Associate in Applied Science

Program Narrative

Are you interested in:

- Helping Others?
- The Human Biological Sciences?
- Community Involvement?
- A business environment?

Have you considered a career in Funeral Service?

The funeral service professional:

- Provides support to the bereaved during initial stages of grief.
- Arranges and directs funeral ceremonies.
- Performs the transfer of the deceased from the place of death.
- Prepares the body according to the wishes of the survivors and requirements of the law.
- Sells funeral related services and merchandise.
- Establishes pre-arranged/pre-financed funeral accounts.
- Secures information for legal documents.
- Files death certificates and other legal papers.
- Assists survivors with details for filing claims for death benefits.
- Helps individuals adapt to changes in their lives following a death through post-death counseling and support group activities.

Why should you enter funeral service?

- You are a caregiver who desires to serve others.
- You believe ceremony is an effective way of expressing feelings.
- You are open-minded about ways in which people of different faiths and cultures express their feelings and practice their beliefs.
- You are interested in the technical sciences.
- You exhibit sensitivity and compassion for those with whom you are in contact.
- You are interested in learning all aspects of a business.

Funeral Service Education provides you with a comprehensive understanding of all phases of funeral service necessary to serve the bereaved in a professional and ethical manner. The need for funeral directors and embalmers will escalate over the next twenty years and the earning potential has never been better.

Mission Statement

Our mission as Northampton Community College Funeral Service Education is to educate students in the fundamental skills, knowledge, and practice of funeral service. We strive to create a supportive learning environment which fosters communication, critical thinking, self-discipline, compassion and encourages student and faculty research in the field of funeral service. The program embraces the college's mission, vision and values, and is committed to providing an unexcelled educational experience that is inclusive and diverse.

Accreditation

The Funeral Service Education degree program at Northampton Community College is accredited by the American Board of Funeral Service Education (ABFSE), 3414 Ashland Avenue, Suite G, St. Joseph, Missouri 64506 (816) 233-3747. Web: www.abfse.org.

National Board Examination pass rates, graduation rates, and employment rates for this and other ABFSE-accredited programs are available at www.abfse.org or can be obtained here. To request a printed copy of this program's rates, go to the Funeral Service Education Program Director's office, Commonwealth Hall, Office 106 or by e-mail at tmoore@northampton.edu , or by telephone 610-861-5576.

Funeral Service Education Aims and Objectives

The Funeral Service Education Program has as its central aim recognition of the importance of funeral service education personnel as:

- members of a human service profession,
- members of the community in which they serve,
- participants in the relationship between bereaved families and those engaged in the funeral service profession,
- professionals knowledgeable of and compliant with federal, state, and local regulatory guidelines,
- professionals sensitive to the responsibility for public health, safety and welfare in caring for human remains.

Objectives of the Funeral Service Education Program:

To enlarge the background and knowledge of students about the funeral service profession.

- To educate students in every phase of funeral service, and to help enable them to develop the proficiency and skills necessary in the profession, as defined above.
- To educate students concerning the responsibilities of the funeral service profession to the community at large.
- To emphasize high standards of ethical conduct.
- To provide a curriculum at the post-secondary level of instruction.
- To encourage research in the field of funeral service.

Program Features

Northampton's Funeral Service Education is designed to meet the educational requirements for licensure set forth by the Pennsylvania State Board of Funeral Directors.

Upon graduation you will be awarded an Associate in Applied Science degree and will be eligible to begin your 12-month Resident Internship. Our graduates have experienced a high level of placement within the profession.

Students are admitted to the program during the Fall sessions of each year and are encouraged to participate in the social and community service activities of Sigma Phi Sigma- The Funeral Service Education Student Association. Funeral Service Education core courses are offered during the day.

Program Admission Requirements

Acceptance into the Funeral Services Education Program is competitive and you wil need to **meet certain prerequisites to be considered for admission**. These admission criteria include:

High school graduates and non-traditional student applicants: will need to have completed high school Biology and Chemistry (with labs) with a grade of C or better AND have an overall G.P.A. of 2.5 or better.

Transfer student applicants: Grades of C or better in each course being transferred in; achieved a minimum G.P.A. of 2.5 for any college-level work completed.

Funeral Service Education core courses (courses with the prefix FUNS) may only be taken by those students who have completed the 60 hours of general education requirement. See prerequisites for grade requirements.

A physical examination and completed medical health form are also required for acceptance.

The application procedure for Funeral Service Education is as follows:

1. Forward completed application with $25 (non-refundable) fee to the Admissions Office.

2. Have official transcripts from all institutions attended (high school and college, if applicable) to the Admissions Office. Your file will not be reviewed until all transcripts are received.

3. Files completed by February 1st will be given primary consideration for acceptance. Applications received after this date will be reviewed on a space available basis only.

A Funeral Service Education advisor will guide you in selecting the appropriate courses that will prepare you to enter the Funeral Service Education core. When you are ready to pursue the Funeral Service Education core phase (which includes all FUNS courses) you need to submit a Clinical/Core Readiness form to the Admissions Office by February 1st. Priority for core seats will be given to those students with the most general education program courses completed and highest G.P.A.

Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes

Graduates of the program will:

- Discuss the history and development of the funeral service profession and practices.
- Demonstrate competence in the knowledge and skills necessary to perform in the role of a funeral service professional.
- Recognize the responsibilities of the funeral service profession to the community at large.
- Demonstrate professionalism and accountability related to the legal, regulatory and ethical issues facing funeral service.
- Communicate effectively in oral and written forms with client families, peers, members of the funeral service community and those in allied professions.

- Assess and attend to the pre-need, at-need, and aftercare needs of client families.
- Employ safe practices, competence and compassion when caring for the deceased.
- Identify application of scholarly research in the field of funeral service.
- Complete satisfactorily a curriculum at the post- secondary level of instruction

Funeral Service Education

Associate in Applied Science Degree

Course Code	Course Title	Credits
	Summer Sessions	
ENGL 101C	English I	3
MATH___	Mathematics Elective (QL)	3
PSYC 103	Introduction to Psychology	3
--------	Elective	3
		12
	First Semester (Fall)	
BIOS 160*	Human Biology	4
CISC 101*	Introduction to Computers	3
CMTH 102	Speech Communication	3
ENG 151L	English II (Literature)	3
BUSA___	Business Elective	3
		16
	Second Semester (Spring)	
ACCT 101*	Financial Accounting I	3
BIOS 202*	Microbiology for Allied Health	4
BUSA 152*	Business Law I	3
PHIL 111G	On Death & Dying	3
PSYC 221*	Responding to the Bereaved	3
SOCA 103	Principles of Sociology	3
		19
	Summer Sessions	
CHEM 135*	Chemistry of Life	4
BUSA___	Business Elective	3
----------	Social Science: Societies and Institutions over Time Elective (SIT)	3
----------	Prescribed Elective +	3
		13
	Third Semester (Fall)	
FUNS 101	Principles of Funeral Service	2
FUNS 102	Introduction to Funeral Service	4
FUNS 201	Funeral Home Operations I	4
FUNS 203	Pathology for Funeral Service	3
FUNS 210	Embalming Theory I	3
FUNS 241 or	Field Study I or	
FUNS 212	Clinical Embalming I	1
		17
	Fourth Semester (Spring)	
FUNS 105	Funeral Directing	3
FUNS 220	Embalming Theory II	3
FUNS 231	Funeral Home Operations II	2
FUNS 242 or	Field Study II or	
FUNS 222	Clinical Embalming II	1
FUNS 251	US & PA Funeral Law	3
FUNS 255	Cosmetology & Restorative Art	3
FUNS 280	Funeral Service Education Comprehensive Review	1
		16
	Total Credits	**93**

*Students must earn a grade of "C" or better in these courses to begin FUNS Courses

+ Prescribed Elective options: ACCT 151, BUSA 202, BUSA 221, CISC 104

- For their Social Science: Societies and Institutions over Time (SIT) Elective, students must select a course from the list of approved courses in that category.

- One General Education course must be taken in a Writing Intensive (WI) section. In addition, writing intensive work is included in various courses in this program; thus completing the program automatically satisfies the program-related Writing Intensive (WI) requirement.
- Computer competencies are included in various courses in this program as well as in CISC101. Thus, completing the program automatically satisfies the computing requirement.
- For their Mathematics (QL) Elective, students must select a course from the list of approved courses in that category.
- Students must earn a grade of "C" or better in all FUNS courses to progress in the program.

Career Potential: Funeral Director, Embalmer, Pre-Need Funeral Counselor

General Studies

Humanities & Social Sciences

Degree awarded: Associate in Arts

Program Narrative

If you're ready for college, but you are still exploring career choices, an associate's degree in General Studies can be a good way to start your education. Northampton's General Studies major allows you to explore a variety of fields and to discover what subjects suit you best. We'll provide you with a well-rounded selection of studies in social, cultural, behavioral, scientific and computer-related subjects. Upon completion, you will be prepared to transfer to a four-year institution to complete a bachelor's degree in the major of your choice.

Program Features

Our General Studies program is specifically designed so that you can transfer your credits to a four-year college or university. Schools that are a part of the Pennsylvania state college and university system will accept all of your credits; however, if you wish to attend another school, we suggest you choose elective courses that are transferable to the institution of your choice. We encourage you to work closely with your academic advisor, as well as the transfer advisor in the Office of Academic Advising, to ensure your greatest opportunity for a smooth and successful transition to a four-year institution.

Program Outcomes

Graduates of the program will:

1. Be able to critically assess and discuss competing perspectives from various disciplines.
2. Demonstrate an understanding of human diversity and an awareness of global issues through analysis of arts, histories, cultures, geographies, economics, medicine, scientific data and/or institutions.
3. Have a basic understanding of key concepts in social sciences, business, and liberal arts.
4. Comprehend the process of scientific inquiry, gain quantitative skills and understand the principles of modern scientific knowledge.
5. Know how to retrieve, evaluate, and apply information from a range of sources.
6. Possess skills necessary to communicate ideas effectively in the workplace.
7. Have a working competency in basic technology applications.
8. Be able to work independently and in teams to complete tasks

General Studies

Associate in Arts Degree

Course Code	Course Title	Credits
	First Semester	
CISC101	Introduction to Computers	3
CMTH102	Speech Communication	3
ENGL101	English I	3
MATH___	Mathematics Elective	3
_____	Social Science/Cultural Studies Elective	3
		15
	Second Semester	
ENGL151*	English II	3
_____	Business & Technology Elective	3
_____	Mathematics or Science Elective (QL/SCI)	3/4
_____	Social Science/Cultural Studies Elective	3
_____	Elective	3
		16/17
	Third Semester	
_____	Communication Elective	3
_____	Social Science/Cultural Studies Elective	3
_____	Social Science/Cultural Studies Elective	3
_____	Science Elective (SCI)	3/4
_____	Elective	3
		15/16

	Fourth Semester	
_____	Social Science/Cultural Studies Elective	3
_____	Elective	3
_____	Elective	3
_____	Elective	3
_____	Elective	3
		15
	Total Credits	60/63

Electives

Electives must be chosen from the four groupings that follow:

- Students have a choice of ENGL 151L (Literature option), ENGL151R (Report Writing) or ENGL 151T (Technical Writing). Contact your advisor for guidance.
- For the Electives, students must select one course from the list of approved courses in each of the following three categories: Arts and Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).
- The Mathematics (QL) and Laboratory Science (SCI) Electives must be selected from the list of approved General Education courses in each of those categories.
- One course should be designated as Diversity and Global Awareness (D).
- One General Education Elective must be taken in a Writing Intensive (WI) section. In addition, students must select a second Writing Intensive (WI) course.
- Two 200-level courses must be taken from the Social Science/Cultural Studies category or communication electives category.
- In addition to satisfying the above requirements, the 18 credits of unspecified electives should be selected from those in the groupings below, or from those allowable in the Liberal Arts program, or from the list of courses which are applicable to A.A. and A.S. degrees. Within this, students should select courses which will transfer to the baccalaureate institution of their choice.
- A student who has completed the entire 15-credit Library Technical Assistant specialized diploma may apply these 15 credits to the General Studies degree as free electives.

Communications Electives (3 credits)

These courses enhance communication skills and offer students the opportunity to pursue an interest in the arts as communication.

Course Code	Course Title	Credits
ARTA 161	Ceramics	3
CMTH 104	Mass Media and Society	3
CMTH 105	Public Speaking	3
CMTH 111	Acting I (AH)	3
CMTH 115	Technical Theatre (AH)	3
CMTH 126	The Communication Arts (AH)(D)	3
CMTH 206	Directing (AH)	3
CMTH 212	Acting II (AH)	3
CMTH 214	Interpersonal Communication	3
CMTH 215	Intercultural Communication (D)	3
CMTH 220	Introduction to Film (AH)	3
CMTH 225G	Scriptwriting (WI)	3
CMTH 230G	Introduction to Communication Theory	3
CMTH231	Small Group Communication	3
ENGL 253	Creative Writing (AH)	3
JOUR 103	Newswriting	3
JOUR 201	Feature Writing	3
MDLA 102/112/122	Elementary French I/II or Intermediate French I (AH)(D)	3
MDLA 103/113/123/133	Elementary Spanish I/II or Intermediate Spanish I/II (AH)(D)	3
MDLA 105/115/125/135	Elementary Chinese I/II or Intermediate Chinese I/II (AH)(D)	3
MDLA 107/117	Elementary Arabic I/II (AH)(D)	3

Business/Technology Electives (3/4 credits)

These courses are the most generally valuable introduction to business and technology. They are neither too specialized, nor too technical in nature and should prove both interesting and accessible to the non-major.

Course Code	Course Title	Credits
CISC 104	Microcomputer Applications (C)	4
CISC 115	Computer Science I (C)	4
ACCT 101	Financial Accounting I	3
BUSA 101	Introduction to Business	3
BUSA 115	International Business	3
BUSA 131	Principles of Marketing	3

ECON 201	Macroeconomics (SSHB)	3
ECON 251G	Microeconomics (WI)	3

Social Science/Cultural Studies Electives (15 credits)

These courses inform students about society and culture, past and present. They will help the student to place problems in a broad perspective and to make informed choices about the conduct of their lives. In fulfilling the 15-credit social science/cultural studies elective requirement, no more than nine credits may be earned from either group below.

Social and Behavioral Understandings and American Experience

Course Code	Course Title	Credits
Social and Behavioral Understandings		
PHIL 111	On Death and Dying (AH)(D)	3
PHIL 202	Ethics and Moral Problems (AH)(D)	3
PSYC 103	Introduction to Psychology (SSHB)	3
PSYC 251 or 258	Child Psychology or Developmental Psychology (SSHB) (D)	3
PSYC 255	Abnormal Psychology (SSHB)	3
SOCA 103	Principles of Sociology (SSHB)(D)	3
SOCA 150	Deviance (D)	3
SOCA 204	Social Problems	3
American Experience		
ENGL 265G	African-American Literature (AH)(D)(WI)	3
GEOG 151	Geography of U.S. and Canada (SIT)	3
HIST 113	American History I (SIT) (D)	3
HIST 121	The Black Experience (SIT)(D)	3
HIST 163	American History II (SIT)	3
HIST 166	Civil War and Reconstruction (SIT)(D)	3
HUMA 121	The American Work Experience (AH)	3
HUMA 140	Introduction to Women and Gender Studies (AH)(D)	3
POLS 110	American National Government (SIT)	3
POLS 251	State and Local Government (SIT)(D)	3
SOCA 105	American Ethnicity (SIT) (D)	3
World Experience and Cultural Understanding		
World Experience		
ENGL264G	Irish Literature (AH)(WI)	3
GEOG 101	World Geography (SIT)(D)	3
GEOG 121	Environmental Sustainability (SSHB)(D)	3
GEOG 140	Investigating Climate Change (SSHB)	3
GLBL 130	Introduction to Global Studies (SIT)(D)	3
HIST 103	Ancient and Medieval History (SIT)	3
HIST 140	Modern Chinese History (SIT)(D)	3
HIST 153	Foundations of Modern European History - 1300-1815 (SIT)	3
HIST 167	Vietnam (SIT)	3
HIST 168	History of the Middle East (SIT)(D)	3
HIST 173	Modern European History-1815 to present (SIT)	3
HUMA 250G	Research Methods in the Social Sciences (SSHB)(WI)	3
PHIL 121	World Religions (AH)(D)	3
PHIL 201	Introduction to Philosophy (AH)	3
PHIL 211	Ancient Philosophy	3
PHIL 215	Modern Philosophy	3
PHIL 220	Existentialism	3
POLS 101	Introduction to Political Science (SIT) (D)	3
POLS 202	International Relations (SIT) (D)	3
SOCA 102	Cultural Anthropology (SIT)(D)	3
Cultural Understanding		
ARCH 100	Architectural History I - Antiquity to 1870	3
ARTA 101	Art History Survey (AH)	3
CMTH 110	Introduction to Theatre (AH)	3
CMTH 211G/ENGL 211G	Plays: Classical to Contemporary (AH)(D)(WI)	3
CMTH 220	Introduction to Film (AH)	3
ENGL 201G	British Literature I (AH)(WI)	3
ENGL 203G	Shakespeare (AH)(WI)	3
ENGL 205G	American Literature I (AH)(WI)	3
ENGL 215G	Multicultural Adolescent Literature (AH)(D)(WI)	3
ENGL 250G	Latin American Literature (AH)(D)(WI)	3
ENGL 251G	British Literature II (AH)(WI)(D)	3

ENGL 255G	American Literature II (AH)(WI)(D)	3
ENGL 256G	Modern Poetry (AH)(WI)(D)	3
ENGL 257G	20th Century Literature by Women (AH)(D)(WI)	3
ENGL 260G	Contemporary Literature (AH)(D)(WI)	3
MUSC 101	Introduction to Music (AH)	3

Mathematics/Science Electives (9-11 credits) +

These courses help the student comprehend the process of scientific inquiry, to gain quantitative skills and some of the principles of modern scientific knowledge. Such comprehension is the essential foundation for understanding advancing technology that dominates society and the natural environment in which we live.

Course Code	Course Title	Credits
BIOS 104	Field Ecology	4
BIOS 105	Contemporary Biology	4
BIOS 107	Biology I	4
BIOS 110	In Your Genes: Introduction to Modern Genetics	4
BIOS 115	Essentials of Biology	4
BIOS 126	Environmental Science	4
BIOS 150	Biology II	4
BIOS 160	Human Biology	4
BIOS 202	Microbiology	4
BIOS 204	Human Anatomy and Physiology I	4
BIOS 206	General Ecology	4
CHEM 105	Chemistry in Contemporary Society	4
CHEM 120	General Chemistry I	4
CHEM 135	Chemistry of Life	4
GEOG 150	Astronomy	4
GEOG 210	Weather and Climate	4
GEOL 201	Physical Geology	4
PHYS 101	Physics I	4
PHYS 151	Physics II	4
PHYS 152	Physical Science II	3
PHYS 215	Physics for Science and Engineering	5
PHYS 225	Physics for Science and Engineering II	5
MATH 120	The Nature of Mathematics	3
MATH 140	College Algebra	3
MATH 145	Trigonometry	3
MATH 150	Introductory Statistics	3
MATH 160	Pre-Calculus	4
MATH 165	Applied Calculus	3
MATH 175	Calculus with Review (part 1)	4
MATH 176	Calculus with Review (part 2)	4
MATH 180	Calculus I	4
MATH 181	Calculus II	4
MATH 210	Calculus III	4
MATH 211	Differential Equations	4

+ 3/4 credits must be math; 3/4 credits must be lab science.

NCC students have transferred to: East Stroudsburg University, Kutztown University, Moravian College, DeSales University, Cedar Crest College, Pennsylvania State University, Temple University

Global Studies

Humanities & Social Sciences

Degree awarded: Associate in Arts

Program Narrative

To meet the need for graduates who are able to function effectively in an interconnected society, the Global Studies program offers a liberal arts education, focused on international relations, area studies, and/or the environment, with a choice of cultural experiences and languages. The program will serve students who wish to transfer to a four-year institution as well as students who wish to work in local businesses with a global reach, or government agencies and non-profit organizations serving diverse populations from other countries.

Graduates of the program will be exposed to a wide diversity of knowledge, be asked to do practical thinking and problem-solving, and offered opportunities to explore global challenges and changes through international trips and exchanges.

Program Features

Foundational courses in communication, statistics, science, and political science will be complemented with courses in cultural anthropology and world geography. Contextual courses will help the student begin to build competency in the environment, or political science, or area studies, and their elective and language choices will allow them to further specialize in a region or culture. Study Abroad spring break courses, while not explicitly included in the course of study, are an advantageous complement to the core and directed studies.

Program Outcomes

Graduates of the program will

- Model the characteristics of an active, ethically aware and connected citizen.
- Articulate how the diverse range of human differences influence the historical and current formation of artistic, economic, social, scientific, cultural or political institutions.
- Articulate how the range of human differences influence each individual's experience of equality and inequality within a society, its institutions, or its cultures.
- Analyze how individuals and institutions have addressed persistent global challenges.
- Assess and evaluate plans to address open-ended and diverse global problems.

Transfer Possibilities

Lehigh University – Global Studies Program
Kutztown University – International Studies Minor
East Stroudsburg University – Intercultural and Interdisciplinary Studies
Albright College – International Relations
Temple University – International Studies or Language
East Stroudsburg University – International Relations within Political Science

Global Studies

Degree awarded: Associate in Arts

Course Code	Course Title	Credits
	First Semester	
CMTH 102	Speech Communication	3
ENGL 101	English I	3
GLBL 130	Introduction to Global Studies	3
PHIL 121 or ARTA 101	World Religions or Art History Survey	3
SOCA 103	Principles of Sociology	3
		15
	Second Semester	
ENGL 151L	English II (Literature)	3
GEOG 101	World Geography	3
MATH 150	Introductory Statistics	3
MDLA ___	MDLA Elective +	3
SOCA 102G	Cultural Anthropology (Writing Intensive)	3
		15
	Summer Semester	
	Summer Study Abroad or Field Experience & Academic Research in Global Studies ++	**3**
	Third Semester	
BIOS 104 or GEOG 210	Field Ecology or Weather and Climate	4
CISC 101	Introduction to Computers	3
CMTH 215	Intercultural Communication	3
MDLA ___	MDLA Elective +	3
_____	Directed Elective +++	3
		16
	Fourth Semester	
GLBL 230	Global Studies Capstone	3
_____	Directed Elective +++	3
_____	Directed Elective +++	3
_____	Science Elective (SCI)	3/4
		12/13
	Total Credits	**61/62**

- One Directed Elective must be completed in a Writing Intensive (WI) section

+ The student is recommended to take a language elective before the summer semester abroad. 6 credits of the same language are required.

++ Not all study abroad courses may run every summer. Options include: INTS 201, POLS 150, POLS 170, GLBL 160

+++ Directed Electives include the following choices in political science, environmental studies, and area studies:
BUSA 115 International Business
POLS 101 Introduction to Political Science
POLS 202 International Relations
POLS 205 Women and Politics
GEOG 121 Environmental Sustainability
GEOG 140 Investigating Climate Change
GEOG271 Introduction to Geographic Information Systems
HIST 140 History of Modern China
HIST 173G Modern European History
HIST 168G History of the Middle East
ENGL 250G Latin American Literature
ENGL260G Contemporary Literature
HUMA 150 The Nature of the Environment

Health Care Billing and Coding

Business & Technology

Degree awarded: Specialized Diploma

Program Narrative

Northampton's Office Administration specialized diploma programs are designed to prepare you to enter a modern office setting in a short time frame. The programs offer career-specific coursework for a student wishing to complete their studies within three part-time semesters. Each program provides course offerings that prepare you to work as a team player in a specialized office environment.

Your studies will include state-of-the-art office equipment and computer software. You will learn the marketable skills required to work effectively with other people in an office environment. We emphasize development of professional attitudes, values, and ethics. As you progress through the program, you'll gain critical thinking, priority setting, and decision-making skills needed in today's quality-oriented business environment.

Graduates of this specialized diploma program often go on to gain employment and then pursue NCC's Health Care Office Specialist Certificate or Health Care Office Coordinator associate degree.

Program Features

This program prepares you for the responsibilities and challenges expected of a skilled medical biller and coder. A medical biller and coder translates health care procedures into standardized code for use by insurance companies, while also compiling and submitting claims to insurance companies and billing patients.

Courses for the health care pathways include Basics of Human Anatomy and Physiology, CPT Coding Methodology, and PCS Coding Methodologies. We have an excellent record of employment for our graduates in a full range of health care settings.

Graduates of this specialized diploma program can also continue on to complete the Health Care Office Specialist certificate, as well as the Health Care Office Coordinator associate degree, with ease.

Student Learning Outcomes

Students who complete the program will:

- Identify the appropriate documentation that is required for billing and reimbursement.
- Categorize patient health conditions and treatments to assign proper codes.
- Apply the appropriate coding system: ICD codes to diagnosis/procedures, HCPCS codes to medical equipment, supplies, etc., and CPT codes to procedures for health records and billing.
- Apply patient accounting principles and reimbursements.
- Analyze patient records to maximize reimbursement.

Endorsed by Local Employers

Potential employers for those following this healthcare career pathway include:

- Hospitals
- Community Health Centers
- Ambulatory Surgical Units
- Outpatient Laboratory Centers
- Physician's Offices
- Urgent Care Centers
- Elder Care Facilities

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Meagan Fitzgerald, Program Manager, at 610.332.6136 or mfitzgerald@northampton.edu for more information.

Health Care Billing and Coding

Specialized Diploma

Course Code	Course Title	Credits
	First Semester	
BIOS130	Basics of Human Anatomy and Physiology	4
OFAD154	Medical Terminology	3
		7
	Second Semester	
OFAD172	Health Insurance Basics	3
OFAD175	ICD-10-CM/PCS Coding Methodologies	3
OFAD176	CPT Coding Methodology	3
		9
	Third Semester	
ACCT100	Accounting for Non-Accountants	3
OFAD177	Health Information Technology	3
OFAD270	Advanced Coding for Medical Services	3
OFAD275	Capstone Simulation for Coding	2
		11
	Total Credits	**27**

Career Potential: Medical Billing Clerk, Medical Coder, Medical Records Clerk, Patient Account Representative

Health Care Office Coordinator

Business & Technology

Degree awarded: Associate in Applied Science

Program Narrative

Northampton's Office Administration degree programs are designed to prepare you for a wide variety of opportunities in a modern office setting. The two degrees offered by the Office Administration department are Office Administrative Assistant, and Health Care Office Coordinator. Both programs provide course offerings and experiences to prepare the graduate to work as a team player in a specialized office environment.
Your studies will include state-of-the-art office equipment and software. You will learn the marketable skills required to work well with other people in an office environment, and these skills will be applied through a valuable internship experience related to your field of study. We emphasize development of professional attitudes, values, and ethics. As you grow through the program, you will gain critical thinking, priority setting, and decision-making skills needed in today's business environment.

Program Features

This program prepares you to accept the responsibilities and challenges expected of a skilled health care office coordinator in the vast professional medical field. A health care office coordinator ensures a well-run practice for physicians and patients in strict compliance with health care laws. Office coordinators oversee the business operations of medical offices, clinics, managed care organizations, health agencies, and similar organizations. Their responsibilities are broad in scope and highly dependent on the size of the practice.
Courses for the health care pathways include Basics of Human Anatomy and Physiology, CPT Coding Methodology, and PCS Coding Methodologies. We have an excellent record of employment for our graduates in the full range of medical office settings.

Student Learning Outcomes

Students who complete the program will:

- Utilize analytical skills and administrative techniques necessary to organize, prioritize, and manage the flow of confidential information in a healthcare setting.
- Display professional behaviors congruent with core values, standards, and ethics in healthcare.
- Exhibit professionally acceptable oral, written, and interpersonal communication skills.
- Employ critical thinking skills for appropriate decision making for healthcare office efficiency and financial health.
- Demonstrate leadership and supervisory skills and an appreciation of diversity to support the organization and its goals.
- Evaluate patient records to maximize reimbursement.
- Apply the patient accounting revenue cycle.
- Perform essential business planning and office management skills in the healthcare office setting.

Endorsed by Local Employers

Potential employers for those following this healthcare career pathway include:

- Hospitals
- Community Health Centers

- Ambulatory Surgical Units
- Outpatient Laboratory Centers
- Physician's Offices
- Urgent Care Centers
- Elder Care Facilities

This program can be completed in the day or evening, on a full- or part-time basis.
To graduate from the Health Care Office Coordinator Program, and prior to the start of any internship placement, Health Care Office Coordinato students enrolling in Internship (OFAD 250) are required to submit current documentation to local health networks to include, but not limited to, proof of health insurance, a physical exam, lab tests and immunizations, criminal history record information (CHRI), FBI Clearance, and Child and Elder Abuse History Clearance.

Please contact the Program Coordinator or Division offices should you have questions.

Health Care Office Coordinator

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
BIOS 130	Basics of Human Anatomy and Physiology	4
CMTH 102	Speech Communication	3
ENGL 101	English I	3
OFAD 101	Essentials of Keyboarding and Formatting I	3
OFAD 154	Medical Terminology	3
		16
	Second Semester	
BUSA 205	Management Fundamentals	3
CISC 101	Introduction to Computers	3
ENGL 151R	English II (Report Writing)	3
OFAD 175	ICD-10-CM/PCS Coding Methodologies	3
OFAD 176	CPT Coding Methodology	3
PSYC 103	Introduction to Psychology	3
		18
	Third Semester	
ACCT 100 or ACCT 101	Accounting for Non-Accountants or Financial Accounting I	3
BUSA 221G	Business Communications	3
CISC 104 or OFAD 152 + OFAD 143	Microcomputer Applications or OFAD 152 Excel for the Medical Profession and OFAD 143 Introduction to Access	3/4
OFAD 172	Health Insurance Basics	3
OFAD 177	Health Information Management	3
		15/16
	Fourth Semester	
BUSA 226	Human Resources Management	3
OFAD 240	Medical Office Managment Procedures	3
OFAD 250	Internship	3
PHIL 202	Ethics & Moral Problems	3
_____	General Education Elective +	3
_____	Elective	3
		18
	Total Credits	**67/68**

+ For the General Education Elective, students must select one course from the list of approved courses in one of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).

One course should be designated as Diversity and Global Awareness (D).

Career Potential: Medical Office Manager, Medical Administrative Assistant, Administrative Assistant, Medical Receptionist, Medical Billing Clerk, Medical Transcriptionist, Medical Coder, Medical Records Clerk, Medical Secretary

Health Care Office Specialist

Business & Technology

Degree awarded: Certificate

Program Narrative

Northampton's Office Administration certificate programs are designed to prepare you to enter a modern office setting in a short time frame. The programs offer career-specific coursework for a student wishing to complete their studies within three full-time semesters. Each program provides course

offerings that prepare you to work as a team player in a specialized office environment.

Your studies will include state-of-the-art office equipment and computer software. You will learn the marketable skills required to work effectively with other people in an office environment. We emphasize development of professional attitudes, values, and ethics. As you progress through the program, you'll gain critical thinking, priority setting, and decision-making skills needed in today's quality-oriented business environment.

Graduates of this certificate program often go on to gain employment and then pursue NCC's Health Care Office Coordinator associate degree.

Program Features

This program prepares you for the responsibilities and challenges expected of a skilled administrative assistant in a health care setting. Responsibilities of a health care office specialist include front-office duties, health services coding, and patient insurance reimbursement, but these responsibilities can vary depending on the size of the practice.

Courses for the health care pathways include Basics of Human Anatomy and Physiology, CPT Coding Methodology, and PCS Coding Methodologies. We have an excellent record of employment for our graduates in the full range of health care settings.

Graduates of this certificate program can also continue on to complete the Health Care Office Coordinator associate degree with ease.

Student Learning Outcomes

Students who complete the program will:

- Identify the appropriate documentation that is required for billing and reimbursement.
- Categorize patient health conditions and treatments to assign proper codes.
- Apply the appropriate coding system: ICD codes to diagnosis/procedures, HCPCS codes to medical equipment, supplies, etc., and CPT codes to procedures for health records and billing.
- Apply patient accounting principles and reimbursements.
- Analyze patient records to maximize reimbursement.
- Utilize software to accomplish work-related tasks accurately and efficiently in a health care environment.
- Utilize analytical skills and administrative techniques necessary to organize, prioritize, and manage the flow of confidential information in a health care setting.
- Exhibit professionally acceptable attitudes, values & ethics in the health care profession.
- Explain the basic human resource management principles as related to the health care environment.

Endorsed by Local Employers

Potential employers for those following this healthcare career pathway include:

- Hospitals
- Community Health Centers
- Ambulatory Surgical Units
- Outpatient Laboratory Centers
- Physician's Offices
- Urgent Care Centers
- Elder Care Facilities

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Meagan Fitzgerald, Program Manager, at 610.332.6136 or mfitzgerald@northampton.edu for more information.

Health Care Office Specialist

Certificate

Course Code	Course Title	Credits
	First Semester	
BIOS130	Basics of Human Anatomy and Physiology	4
OFAD101	Keyboarding & Formatting I	3
ENGL101	English I	3
OFAD154	Medical Terminology	3
		13
	Second Semester	
ACCT100	Accounting for Non-Accountants	3
CISC101	Introduction to Computers	3
OFAD172	Health Insurance Basics	3
OFAD175	ICD-10-CM/PCS Coding Methodologies	3
OFAD176	CPT Coding Methodology	3
		15
	Third Semester	
BUSA226	Human Resource Management	3
OFAD177	Health Information Technology	3

OFAD240	Medical Office Management Procedures	3
OFAD270	Advanced Coding for Medical Services	3
OFAD275	Capstone Simulation for Coding	2
OFAD276	Diversity & Cultural Competency in Healthcare	2
		16
	Total Credits	**44**

Career Potential: Medical Receptionist, Medical Secretary, Medical Administrative Assistant, Patient Coordinator, Medical Billing Clerk, Medical Coder, Medical Records Clerk

Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) Technology

Business & Technology

Degree Awarded: Associate in Applied Science

Program Narrative (AAS)

HVAC/R technology continues to become more and more sophisticated with each technological development. Highly efficient and environmentally sustainable equipment provides affordable and reliable comfort in our factories, offices and homes. These systems create the demand for well-trained technicians who can service, maintain, install and retrofit complex equipment.

Graduates of Northampton's HVAC/R Technology associate's degree program are qualified to service and repair air conditioning equipment, oil and gas burners, heat pumps, ventilation equipment, and commercial refrigeration systems located in residences, offices, industrial plants, medical and educational institutions and retail establishments. Earning an associate's degree gives you an additional competitive edge, particularly if you are interested in growing into supervisory positions. It is also a stepping stone to an advanced degree, such as a bachelor of science.

Program Features

Northampton's Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) Technology program was developed with the assistance of many of the area's leading HVAC/R organizations. Because of this, you can be confident that your studies will meet the demands of local and national HVAC contractors and fuel companies.

Industry-experienced instructors provide the basic fundamentals of electrical and mechanical systems with over 400-hours of in-depth, hands-on study of actual refrigeration, burner and ventilation systems. As a student in the program, you will be prepared to take the EPA Refrigerant Technician licensure test, which is held at NCC. The Practicum course provides an internship experience with an employer, allowing you first-hand experience in HVAC and refrigeration field service. The associate's degree general education coursework rounds out your education, allowing you to communicate and work more effectively with diverse customers, suppliers and co-workers.

Our program can be completed on either a full-time or part-time evening basis. Check with your advisor for more information and options in course selection.

View Gainful Employment information on the HVAC/R Technology Associate in Applied Science

Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) Technology

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Year	
CISC 101	Introduction to Computers	3
EMEC 101	Electrical Fundamentals	3
EMEC 118	Hand and Power Tools	1
ENGL 101C	English I	3
HVAC 101	Fundamentals of HVAC/R I*	4
MATH 103	Applications in Mathematics	3
		17
	Second Semester	
CMTH 102	Speech Communication	3
EMEC 135	Electrical Motors and Controls	4
ENGL 151T	English II +	3
HVAC 102	Fundmentals of HVAC/R II	3
HVAC 110	Print Reading for HVAC/R	1
PHYS 152	Physical Science II	3
		17
	Third Semester	
ELTC 107	Electrical Wiring I	3
EMEC117	Industrial Rigging	1
HVAC 124	Heating: Gas, Oil, Solar Thermal, Air and Hydronic Systems	4
HVAC 140	Heat Pump Systems	2

----------	Technical Elective++	3
----------	General Education Elective	3
		16
	Fourth Semester	
HVAC 104	Refrigeration Troubleshooting	3
HVAC142	Geotermal Heat Pump Design and Installation	2
HVAC 150	Airflow and Distribution	3
HVAC 260G	HVAC/R Technology Practicum	2
OSAH 100	Industry Outreach Safety Education	1
----------	General Education Elective	3
----------	Elective	3
		17
	Total Credits	**67**

* In conjunction with this course the seminar/testing session: ACRNC108 EPA Refrigerant Usage Certification is offered.

+ Students are strongly advised to select the Technical Writing option - ENGL 151T, but also could choose Report Writing (ENGL151R). Contact your advisor.
++ Elective options: any EMEC, ELEC, ELTC, ENGG, CHEM, CISC, HVAC or WELD except ENGG 100.

For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).

- One course should be designated as Diversity and Global Awareness(D).
- Completion of HVAC 260G satisfies the Writing Intensive (WI) requirement.

******Due to Semester Schedule Variations (FA/SP), Meeting with your HVAC Advisor is critical for success.*******

Career Potential: Facilities Maintenance Mechanic, HVAC Service Technician, Refrigeration Technician

Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) Technology

Business & Technology
Certificate conferred

Program Narrative

As a graduate of Northampton's HVAC/R certificate program, you will have the qualifications needed to find good-paying employment in this highly technical field. Many of our graduates command above-average salaries as service and installation technicians with HVAC/Mechanical contractors or as maintenance technicians in commercial and industrial facilities.

Program Features

Our program offers the unique opportunity to learn the concepts and service practices on components and equipment used in HVAC/R systems. You will also learn the proper methods of recovery and handling of refrigerants and be prepared to take the EPA Refrigerant Technician licensure test.

The program's curriculum includes electrical theory, heating and cooling concepts, refrigeration cycle theory, equipment operation, component specification, whole system operation, system calculations, and diagnostic approaches.

If you decide to advance your education further, all of the course work in this certificate program can be applied toward Northampton's Associate in Applied Science (AAS) degree: Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) Technology.

View Gainful Employment information on the HVAC/R Technology Certificate

Program Outcomes

Graduates of the program will:

- Demonstrate an ability to work independently and collaboratively.
- Analyze and present data in an acceptable and standardized manner.
- Demonstrate a basic framework of technical vocabulary applicable to the HVAC/R field.
- Demonstrate the proficient use of the tools and diagnostic equipment utilized within the industry.
- Interpret and apply the EPA regulatory laws applicable to refrigerant handling and other environmentally hazardous materials used with HVAC/R systems.
- Be able to describe the principles of operation of residential, commercial, institutional, and industrial HVAC/R equipment.
- Demonstrate the ability to service and repair these systems utilizing industry proven methods and procedures.
- Be able to explain commercial/industrial control systems and demonstrate the troubleshooting skills necessary to solve complex problems.
- Demonstrate knowledge of airflow dynamics and the proper application of components in a commercial refrigeration system.
- Apply math concepts in solving equipment related problems and service invoicing.
- Demonstrate competent communication and technical writing skills.
- Demonstrate observational, integrative, and synthetic skills.

Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) Technology

Certificate Program

Course Code	Course Title	Credits
	First Semester	
CISC 101	Introduction to Computers	3
EMEC 101	Electrical Fundamentals	3
EMEC 117	Industrial Rigging	1
EMEC 118	Hand and Power Tools	1
HVAC 101	Fundamentals of HVAC/R I**	4
HVAC 110	Print Reading for HVAC/R*	1
MATH 103	Applications in Mathematics	3
OSAH 100	Industry Outreach Safety Education	1
		17
	Second Semester	
ELTC 107	Electrical Wiring I	3
ENGL 101	English I	3
HVAC 102	Fundamentals of HVAC/R II	3
HVAC 124	Heating; Gas, Oil, Solar Thermal, Air and Hydronic Systems	4
HVAC 140	Heat Pump Systems	2
HVAC 142	Geothermal Heat Pump System Design and Installation	2
		17
	Third Semester	
EMEC 135	Electrical Motors and Controls	4
HVAC 104	Refrigeration System Troubleshooting*	3
HVAC 150	HVAC Airflow and Distribution*	3
_____	Technical Electives ++	6/8
		16/18
	Total Credits:	**50/52**

* Current course scheduling for HVAC 104, 150, 110 is to offer in Spring semester only. Check with HVAC advisor for most recent schedule details.

* In conjunction with this course the seminar/testing session: ACRNC108 EPA Refrigerant Usage Certification is offered.

++ Technical Elective Options: Any EMEC, ELEC, ENGG, CHEM, CISC, HVAC or WELD except ENGG100

******SCHEDULING WITH HVAC ADVISOR IS CRITICAL FOR SUCCESS**

Heating, Ventilation and Air Conditioning (HVAC) Technology

Business & Technology, *Specialized Diploma conferred*

Program Narrative (SD)

As a graduate of Northampton's Heating, Ventilation and Air Conditioning (HVAC) Technology program, you will have the qualifications needed to find employment in this highly technical field. Many of our graduates command competitive salaries in facilities maintenance jobs and as service and installation technicians in heating and air conditioning service companies.

Our program was created in response to the needs of business and industry for short-term job training programs. Students gain in-depth understanding of HVAC systems and maintenance practices at an accelerated pace.

Program Features

Our program offers the unique opportunity to learn the concepts and practices on components and equipment used in actual HVAC systems. You will also learn the proper methods of recovery and handling of refrigerants and be prepared to take the EPA Refrigerant Technician licensure test.

Coursework includes electrical theory, heating and cooling concepts, the refrigeration cycle, equipment operation and maintenance, component specification, and diagnostic approaches. Progressive courses train in the skills related to commercial AC, residential power wiring/NEC code, oil and gas-fired heating equipment, air-to-air heat pumps, and geothermal system design and installation.

All of the course work in this specialized diploma program can be applied toward Northampton's higher level, HVAC/R Certificate and the Associate in Applied Science (AAS) degree in Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) Technology.

View Gainful Employment information on the HVAC/R Technology Specialized Diploma

Program Outcomes

Graduates of the program will:

- Demonstrate an ability to work independently and collaboratively.
- Analyze and present data in an acceptable and standardized manner.

- Demonstrate a basic framework of technical vocabulary applicable to the HVAC/R field.
- Demonstrate the proficient use of the tools and diagnostic equipment utilized within the industry.
- Interpret and apply the EPA regulatory laws applicable to refrigerant handling and other environmentally hazardous materials used with HVAC/R systems.
- Be able to describe the principles of operation of residential and light commercial heating and cooling equipment.
- Demonstrate the ability to service and repair these systems utilizing industry proven methods and procedures.

Heating, Ventilation, Air Conditioning (HVAC) Technology

Specialized Diploma

Course Code	Course Title	Credits
	First Semester	
EMEC 101	Electrical Fundamentals	3
EMEC 117	Industrial Rigging	1
EMEC 118	Hand and Power Tools	1
HVAC 101	Fundamentals of HVAC/R I*	4
HVAC 110	Print Reading for HVAC/R	1
MATH 103	Applications in Mathematics	3
OSAH 100	Industry Outreach Safety Education	1
		14
	Second Semester	
ELTC 107	Electrical Wiring I	3
HVAC 102	Fundamentals of HVAC/R II	3
HVAC 124	Heating; Gas, Oil, Solar Thermal, Air and Hydronic Systems	4
HVAC 140	Heat Pump Systems	2
HVAC 142	Geothermal Heat Pump System Design and Installation	2
		14
	Total Credits:	**28**

* In conjunction with this course the seminar/testing session: ACRNC108 EPA Refrigerant Usage Certification is offered.

Career Potential: Facilities Maintenance Mechanic, HVAC Service Technician, and Refrigeration.

Honors Program

The Honors Program at Northampton Community College provides an enriched educational environment in which students will be challenged to reach their full intellectual potential and to better prepare themselves for the academic demands of the four-year college or university of their choice. The overall goal of the program is to provide an academic atmosphere in which students learn to think critically, creatively, and independently, and to take responsibility for their own learning.

Program Features

The Honors Program at Northampton is flexible and works well with students' intended program of study. Students select from honors sections of courses that are part of the general education core. After successfully finishing 12 credits of honors designated courses and maintaining a GPA of 3.5, students will complete the Honors Program.

Honors faculty members are dedicated to inspiring and challenging students with innovative and exciting strategies. Many honors courses include a service learning component, allowing students to relate and apply the content of their course to community service projects outside the college.

The emphasis in honors courses is on participating in alternative learning strategies, producing scholarly papers and projects, and experiencing cultural and social activities within and beyond NCC.

Program Requirements

Students will be eligible for this program by:

- Completing an NCC Application form.
- Completing an Honors Program Application form.
- Meeting the NCC placement requirement for English I.

Students must meet one of the following entrance criteria:

- Have a minimum high school GPA of 3.5 on a 4.0 scale.
- Graduate from the top 20% of high school class.
- Have a minimum college or university GPA of 3.5 after 12 credits of coursework.
- Secure a recommendation letter from a high school faculty member, counselor or other appropriate designee approved by the honors director. Students choosing the recommendation option will need to complete an interview with the Director of the Honors Program.

Contact the Admissions Office at 610-861-5500 for further information.

Honor Program Outcomes

Graduates of program will:

- Actively participate in the classroom and be more responsible for their own learning.
- Apply the critical thinking skills of analysis, synthesis, and evaluation to course related materials.
- Identify, understand, and apply the methodologies, principles, and research strategies of discipline.
- Complete the honors program will transfer to honors programs at institutions of their choice.

Career Potential: The program will provide an enriched educational environment in which students will be challenged to reach their full intellectual potential and to better prepare themselves for the academic demands of the four-year college or university of their choice.

Hospitality Management - A.A.S. Degree

Business & Technology

Degree awarded: Associate in Applied Science
Restaurant and Hotel Options

Program Narrative

Employment in the Hospitality industry has reached record-breaking levels locally and internationally. As the industry has expanded, consumer expectations about the quality of their experiences at hotels and restaurants have also been raised to new heights. The Hospitality industry offers exciting and rewarding career options. Your education makes a difference in how competitive you will be for high-paying, senior-level positions.

Northampton Community College offers state-of-the-art training facilities, classroom study, and hands-on practical application. Our program prepares you to gain entry-level management positions in restaurants, hotels, and several hundred other hospitality related careers. Your internship course at Northampton will allow you to begin your career in the hospitality field, while gaining the work experience needed to help you climb the ladder of success. Students develop their specialized skills in the area of their choice, and can advance to management positions within 6 months to 1 year. The National Restaurant Association and The American Hotel and Motel Association offers scholarships to students interested in furthering their career with a formal education.

Restaurant Option

Program Features

For students interested in a career in hospitality food and beverage management, Northampton offers students the opportunity to earn an associate degree in applied science in Restaurant Management. Some of the core classes in the program include basic culinary skills and techniques, food safety and sanitation, menu planning and cost controls, catering and convention services, dining room operations, and strategic leadership. Students will have hands-on working experience in the "Hampton Winds" restaurant and at campus special events.

The Hospitality Management program fosters teamwork, professionalism, and learning through experience. Students will be prepared for a career in the hospitality industry by classroom learning supplemented with field trips, guest speakers and industry certifications. All students will complete a 225 hour management practicum, where they will complete an internship in their area of interest.

Course credit or advanced placement options may exist for students coming from local high schools and vocational schools. Northampton also has agreements with several colleges and universities for students interested in transferring to a four year school upon completion of the program. Program instructors and college advisors can help determine the education and career path that will lead students to a successful future.

Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes: Restaurant Option

Graduates of the program will:

- Acquire and correctly use general industry information, technical skills, and certifications for employment in the hospitality industry.
- Listen and effectively communicate in a positive, professional, and ethical manner with customers and colleagues of diverse backgrounds.
- Display a professional image, positive attitude, strong work ethic, and recognize your role in the success of the organization where you are employed.
- Read and accurately interpret standard indicators of the organization's financial health.
- Use appropriate technology for written communication, information gathering, and data analysis to facilitate smooth operation of a hospitality organization.
- Demonstrate leadership and supervisory skills, and an appreciation of diversity to support the organization and its goals.
- Use organization and flexibility, as a team, to complete tasks, make decisions, and problem solve in a timely manner.
- Utilize research and problem-solving techniques to employ "out of the box" critical thinking skills in a variety of hospitality situations.

Hospitality Management: Restaurant Option

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CMTH 102	Speech Communication	3

CULA 102	Food Safety and Sanitation	2
ENGL 101	English I	3
FOOD 110	Food Preparation I	4
HOSP 101	Introduction to the Hospitality Industry	3
		15
	Second Semester	
ENGL 151R	English II (Report Writing)	3
FOOD 123	Menu Planning and Food and Beverage Cost Control	3
HOSP 105	Enhancing Guest Service	3
HOSP 111	Food and Beverage Management	3
----------	General Education Elective (SIT or SSHB)	3
		15
	Third Semester	
HOSP 130	Convention Services and Catering Management	3
HOSP 210	Human Resources Management for the Hospitality Industry	3
HOSP 215	Hospitality Sales and Marketing	3
PSYC 103	Introduction to Psychology	3
----------	Mathematics (QL) or Science (SCI) Elective	3/4
----------	General Education Elective (AH)	3
		18/19
	Fourth Semester	
FOOD 250	Dining Room Operations	4
HOSP 201	Strategic Leadership in Hospitality	3
HOSP 212	Hospitality Financial Reporting	3
HOSP 221G	Hospitality Management Practicum	3
----------	Elective	3
		16
	Total Credits	**64/65**

- For the General Education Electives, students must select one course from the list of approved Arts & Humanities (AH) courses and one course from the lists of approved courses in Social Science: Societies and Institutions over Time (SIT); or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness(D).

Career Potential: Restaurant Operations Supervisor/Manager/Owner, Conference Services/, Banquet Supervisor/Manager, Contract Food service supervisor/manager, food broker/distributor, several other restaurant related entry-level positions.

NCC students have transferred to: Pennsylvania State University, East Stroudsburg University, University of Delaware, University of Nevada, Las Vegas, Johnson and Wales University

Hotel Option

Program Features

For students interested in a career in hotel management, Northampton offers students the opportunity to earn an associate degree in applied science in Hospitality Management. Some of the core classes in this program include rooms division management, enhancing guest services, hospitality law, financial reporting, sales and marketing, human resources management, and strategic leadership. Students can supplement their core courses with classes focused on meeting and event planning, casino operations, club management, and resort management.

The Hospitality Management program fosters teamwork, professionalism, and learning through experience. Students will be prepared for a career in the hospitality industry by classroom learning supplemented with field trips, guest speakers and industry certifications. All students will complete a 225 hour management practicum, where they will complete an internship in their area of interest.

Course credit or advanced placement options may exist for students coming from local high schools and vocational schools. Northampton also has agreements with several colleges and universities for students interested in transferring to a four year school upon completion of the program. Program instructors and college advisors can help determine the education and career path that will lead students to a successful future.

Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes: Hotel Option

Graduates of the program will:

- Acquire and correctly use general industry information, technical skills, and certifications for employment in the hospitality industry.
- Listen and effectively communicate in a positive, professional, and ethical manner with customers and colleagues of diverse backgrounds.
- Display a professional image, positive attitude, strong work ethic, and recognize your role in the success of the organization where you are employed.
- Read and accurately interpret standard indicators of the organization's financial health.
- Use appropriate technology for written communication, information gathering, and data analysis to facilitate smooth operation of a hospitality organization.

- Demonstrate leadership and supervisory skills, and an appreciation of diversity to support the organization and its goals.
- Use organization and flexibility, as a team, to complete tasks, make decisions, and problem solve in a timely manner.
- Utilize research and problem-solving techniques to employ "out of the box" critical thinking skills in a variety of hospitality situations.

Hospitality Management: Hotel Option

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CMTH 102	Speech Communication	3
ENGL 101	English I	3
HOSP 101	Introduction to the Hospitality Industry	3
HOSP 105	Enhancing Guest Service	3
----------	Mathematics (QL) or Science (SCI) Elective	3/4
		15/16
	Second Semester	
ENGL 151R	English II (Report Writing)	3
HOSP 111	Food and Beverage Management	3
HOTL 207	Rooms Division Management	3
----------	Required Program Elective +	3/4
----------	General Education Elective (SIT or SSHB)	3
		15/16
	Third Semester	
HOSP 210	Human Resources Management for the Hospitality Industry	3
HOSP 215	Hospitality Sales and Marketing	3
HOTL 110	Hospitality Law	3
PSYC 103	Introduction to Psychology	3
----------	Required Program Elective +	3
----------	General Education Elective (AH)	3
		18
	Fourth Semester	
HOSP 130	Convention Services & Catering Management	3
HOSP 201	Strategic Leadership in Hospitality	3
HOSP 212	Hospitality Financial Reporting	3
HOSP 221G	Hospitality Management Practicum	3
----------	Elective	3
		15
	Total Credits	**63/65**

+ Students are required to take a minimum of 6 credits from the list of Program Electives: FOOD 123 (3 cr), 250 (4 cr), HOTL 140 (3 cr), 150 (3 cr), 160 (3 cr), or MEPL 112(3 cr), 122 (3 cr).

- For the General Education Electives, students must select one course from the list of approved Arts & Humanities (AH) courses and one course from the lists of approved courses in Social Science: Societies and Institutions over Time (SIT); or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).

Career Potential: Hotel Operations Supervisor/ Manager, Guest Services Supervisor/Manager, Human Resources Entry-level Manager, Sales and Marketing Coordinator, Related Entry-level Positions

NCC students have transferred to: Pennsylvania State University, East Stroudsburg University, University of Delaware, University of Nevada, Las Vegas, Johnson and Wales University

Hospitality Management - Meeting & Event Planning

Business & Technology

Degree awarded: Associate in Applied Science;
Specialized Diploma conferred

Program Features

Students earning an associate degree in applied science in Hospitality Management: Meeting and Event Planning will gain solid business knowledge and comprehensive skills designed to help prepare for a career in the event and meeting industries for any of the corporate, association, social, leisure, or hospitality and tourism arenas. Curriculum exposes students to develop and enhance planning and coordination skills, sales techniques, to research locations and activities available, and gain business acumen necessary for success in providing the highest level of guest service and satisfaction. Extensive techniques are examined for increasing organizational skills and the attention to detail necessary to carry out events and meetings of all sizes.

According to the U.S. Bureau of Labor Statistics, employment in this field is expected to grow faster than average for all occupations. Job opportunities will be best for individuals with a bachelor's degree and some experience as a meeting planner, as the work and responsibilities are becoming more complex.

The Hospitality Management program fosters teamwork, professionalism, and learning through experience. Students will be prepared for a career in the hospitality industry by classroom learning supplemented with field trips, guest speakers and industry certifications. All students will complete a 225 hour management practicum, where they will complete an internship in their area are of interest.

Course credit or advanced placement options may exist for students coming from local high schools and vocational schools. Northampton also has agreements with several colleges and universities for students interested in transferring to a four year school upon completion of the program. Program instructors and college advisors can help determine the education and career path that will lead students to a successful future.

Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes: Meeting and Event Planning Option

Graduates of the program will:

- Acquire and correctly use general industry information, technical skills, and certifications for employment in the hospitality industry.
- Listen and effectively communicate in a positive, professional, and ethical manner with customers and colleagues of diverse backgrounds.
- Display a professional image, positive attitude, strong work ethic, and recognize your role in the success of the organization where you are employed.
- Read and accurately interpret standard indicators of the organization's financial health.
- Use appropriate technology for written communication, information gathering, and data analysis to facilitate smooth operation of a hospitality organization.
- Demonstrate leadership and supervisory skills, and an appreciation of diversity to support the organization and its goals.
- Use organization and flexibility, as a team, to complete tasks, make decisions, and problem solve in a timely manner.
- Utilize research and problem-solving techniques to employ "out of the box" critical thinking skills in a variety of hospitality situations.

Course Number	Course Title	Credits
	First Semester	
CMTH 102	Speech Communication	3
ENGL 101	English I	3
HOSP 101	Intro to the Hospitality Industry	3
MEPL 112	Meeting and Convention Management	3
----------	Math (QL) or Science (SCI) Elective	3/4
		15/16
	Second Semester	
ENGL 151R	English II (Report Writing)	3
HOSP 105	Enhancing Guest Services	3
HOSP 111	Food and Beverage Management	3
MEPL 122	Special Event Management	3
PSYC 103	Introduction to Psychology	3
----------	General Education Elective (SIT or SSHB)	3
		15
	Third Semester	
HOSP 210	Human Resource Management for the Hospitality Industry	3
HOSP 215	Hospitality Sales and Marketing	3
MEPL 132	Event Promotion & Sponsorship	3
PSYC 103	Introduction to Psychology	3
----------	General Education Elective (AH)	3
		15
	Fourth Semester	
HOSP 130	Convention Services and Catering	3
HOSP 201	Strategic Leadership in Hospitality	3
HOSP 212	Hospitality Financial Reporting	3
HOSP 221G	Hospitality Management Practicum	3
MEPL 143 or MEPL 147	Event & Meeting Facilities Management or The Business of Social Events and Wedding Consulting	3
----------	Elective	3
		18
	Total Credits:	**63/64**

- For the General Education Electives, students must select one course from the list of approved Arts & Humanities (AH) courses and one course from the list of approved courses in Social Science: Societies and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).

Meeting & Event Planning

Specialized Diploma

Program Narrative

Northampton's Meeting and Event Planning diploma prepares you to effectively plan, organize and manage events and meetings on a variety of scale and splendor. Our graduates are employed in positions such as meeting planners, event coordinators, sales coordinators, banquet/convention services manager, or catering supervisor.

Program Features

The specialized diploma in Meeting and Event Planning prepares the student for employment in event management, meeting planning, convention sales, and positions in hotels and resorts. The curriculum exposes students to the basic tenants of guest service, leadership, communication, teamwork and problem solving. The program teaches students basic meeting, convention and special event management skills needed for success in this highly electrifying and dynamic industry. The diploma program and its content were developed with extensive input from the industry experts.

Program Outcomes

Graduates of the program will:

- Acquire and correctly use general industry information, technical skills, and certifications for employment in the hospitality industry.
- Listen and effectively communicate in a positive, professional, and ethical manner with customers and colleagues of diverse backgrounds.
- Display a professional image, positive attitude, strong work ethic, and recognize your role in the success of the organization where you are employed.
- Read and accurately interpret standard indicators of the organization's financial health.
- Use appropriate technology for written communication, information gathering, and data analysis to facilitate smooth operation of a hospitality organization.
- Demonstrate leadership and supervisory skills, and an appreciation of diversity to support the organization and its goals.
- Use organization and flexibility, as a team, to complete tasks, make decisions, and problem solve in a timely manner.
- Utilize research and problem-solving techniques to employ "out of the box" critical thinking skills in a variety of hospitality situations.

Meeting & Event Planning

Specialized Diploma

Course Code	Course Title	Credits
	First Semester	
HOSP101	Introduction to the Hospitality Industry	3
MEPL112	Meeting and Convention Management	3
		6
	Second Semester	
HOSP105	Enhancing Guest Service	3
MEPL122	Special Event Management	3
		6
	Third Semester	
HOSP130	Convention Services and Catering Management	3
HOSP215	Hospitality Sales and Marketing	3
MEPL132	Event Promotion and Sponsorship	3
		9
	Fourth Semester	
HOSP201	Strategic Leadership in Hospitality	3
MEPL143	Event and Meeting Facilities Management	3
MEPL147	The Business of Social Events and Wedding Consulting	3
		9
	Total Credits:	**30**

Career Potential: junior event planner, junior meeting planner, destination management administrative assistant, wedding/social event assistant, conference/convention services administrative assistant, special events/entertainment associate, and festival associate.

Hospitality Management - Dining Room Operations

Business & Technology

Specialized Diploma

Program Narrative

Northampton's Dining Room Operations diploma prepares you to effectively address the guest services and supervisory challenges faced within the various segments of the food and beverage industry. Our graduates are employed in positions such as dining room supervisor, banquet manager, convention services coordinator, catering supervisor or food service manager.

Program Features

The Dining Room Operations diploma includes broad training in all aspects of restaurant management including front of the house business, supervisory duties and convention services/catering operations. Graduates will be prepared for entry-level management opportunities in fine dining, full service and quick casual restaurants, institutional food service, hotel food service outlets, country clubs, and a variety of other food service establishments.

The program emphasizes the basic tenants of guest service, leadership, communication, teamwork and problem solving. The program teaches students dining room operations, convention services and catering operations, food service safety and sanitation, hospitality management and marketing, guest services, and food and beverage management. We developed our program and its content with extensive input from the hospitality industry.

View Gainful Employment information on the Dining Room Operations specialized diploma.

Program Outcomes

Graduates of the program will:

- Acquire and correctly use general industry information, technical skills, and certifications for employment in the hospitality industry.
- Listen and effectively communicate in a positive, professional, and ethical manner with customers and colleagues of diverse backgrounds
- Display a professional image, positive attitude, strong work ethic, and recognize your role in the success of the organization where you are employed.
- Read and accurately interpret standard indicators of the organization's financial health.
- Use appropriate technology for written communication, information gathering, and data analysis to facilitate smooth operation of a hospitality organization.
- Demonstrate leadership and supervisory skills, and an appreciation of diversity to support the organization and its goals.
- Use organization and flexibility, as a team, to complete tasks, make decisions, and problem solve in a timely manner.
- Utilize research and problem-solving techniques to employ "out of the box" critical thinking skills in a variety of hospitality situations.

Dining Room Operations

Specialized Diploma

Course Code	Course Title	Credits
	First Semester	
CULA 102	Food Safety and Sanitation	2
FOOD 110	Food Preparation I	4
HOSP 101	Introduction to the Hospitality Industry	3
HOSP 105	Enhancing Guest Service	3
HOSP 130	Convention Services and Catering Management	3
		15
	Second Semester	
FOOD 123	Menu Planning and Food and Beverage Cost Control	3
FOOD 250	Dining Room Operations	4
HOSP 111	Food and Beverage Management	3
HOSP 201	Strategic Leadership in Hospitality	3
		13
	Total Credits	**28**

Career Potential: Food Service Manager Dining Room Supervisor, Catering Supervisor, Convention Services Coordinator, Banquet Manager

Hospitality Management - Resort Management

Business & Technology

Specialized Diploma

Program Narrative

Through our Resort Management diploma program, you'll be prepared to tackle any guest services and managerial challenges faced in the resort, club, food and beverage and hotel operations fields. Our graduates are employed in positions such as resort manager, club manager, membership manager, activities manager, recreation manager or lodging manager.

Program Features

The Resort Management diploma provides you with the managerial, technical, and operational expertise that is essential to pursuing a career in the resort or club segment of the hospitality industry. We emphasize the basic tenants of guest service, leadership, communication, teamwork and problem solving. The program teaches students basic resort, club and lodging operations, resort specialty subjects, hospitality management and marketing, guest services, food and beverage management. Also included in the training are hospitality accounting and finance competencies. Our program and its content were developed with extensive input from the hospitality industry.

View Gainful Employment information on the Resort Management specialized diploma.

Program Outcomes

Graduates of the program will:

- Acquire and correctly use general industry information, technical skills, and certifications for employment in the hospitality industry.
- Listen and effectively communicate in a positive, professional, and ethical manner with customers and colleagues of diverse backgrounds.
- Display a professional image, positive attitude, strong work ethic, and recognize your role in the success of the organization where you are employed.
- Read and accurately interpret standard indicators of the organization's financial health.
- Use appropriate technology for written communication, information gathering, and data analysis to facilitate smooth operation of a hospitality organization.
- Demonstrate leadership and supervisory skills, and an appreciation of diversity to support the organization and its goals.
- Use organization and flexibility, as a team, to complete tasks, make decisions, and problem solve in a timely manner.
- Utilize research and problem-solving techniques to employ "out of the box" critical thinking skills in a variety of hospitality situations.

Resort Management

Specialized Diploma

Course Code	Course Title	Credits
	First Semester	
HOSP101	Introduction to the Hospitality Industry	3
HOSP105	Enhancing Guest Service	3
HOTL110	Hospitality Law	3
		9
	Second Semester	
HOSP111	Food and Beverage Management	3
HOTL150	Resort Management	3
HOTL207	Rooms Division Management	3
		9
	Third Semester	
HOSP210	Human Resources Management for the Hospitality Industry	3
HOSP215	Hospitality Sales and Marketing	3
		6
	Fourth Semester	
HOSP201	Strategic Leadership in Hospitality	3
HOSP212	Hospitality Financial Reporting	3
		6
	Total Credits:	**30**

Career Potential: Lodging Manager Resort Manager, Recreation Manager, Activities Manager, Membership Manager

Individualized Transfer Studies

Humanities & Social Sciences

Degree awarded: Associate in Arts

Program Narrative

Even if Northampton's extensive selection of degree programs doesn't include your intended major, you can still begin your studies here by creating an Individualized Transfer Studies program. By working with your advisor, you can carefully select courses at NCC that are required by the four-year institution to which you plan to transfer. Doing so will give you an affordable head start on your baccalaureate degree with an associate's degree from Northampton.

Please note that this option is intended only for students who have identified their baccalaureate college of choice, and their intended major, and are pre-planning a program of Northampton courses to fulfill the general distribution requirements and other courses that are transferable to the four-year institution.

Program Features

The Individualized Transfer Studies program consists of a three-part curriculum, including:

- The current Northampton general education core for associate in arts programs
- The addition of one Humanities and one Social Science course to the general education electives
- 30 credit hours aligned with the requirements of the degree program at your transfer institution

The College has negotiated opportunities for students to use the Individualized Transfer Studies program to transfer to several colleges/universities for specific programs:

- East Stroudsburg University
    - Health Service Administration, BS Degree
    - Health Education, Concentration in Community Health, BS Degree
- Kutztown University
    - Art Education, BS Degree
- DeSales University (via online learning)
    - Accounting, BA Degree

Program Requirements

Students will be eligible for this program by:

1. Pre-planning a 61-credit program with the assistance of the Director of Advising
2. Securing the signature of the transfer counselor and appropriate academic dean
3. Agreeing to work with an academic advisor each semester before registration
4. Securing all signatures for the pre-planned program before attempting the last 15 credits at Northampton
5. Agreeing to contact an advisor at the baccalaureate institution during the first semester of study

Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes

Graduates of the program will:

- With the assistance of the Transfer Advisor, have planned and completed a 61-credit program tailored to their transfer institution.
- Have fulfilled all general education objectives at Northampton and maximized their transfer to a baccalaureate institution.

Individualized Transfer Studies

Associate in Arts Degree

Course Code	Course Title	Credits
ENGL 101C	English I	3
ENGL 151*	English II*	3
CMTH 102	Speech Communication	3
MATH___	Mathematics Elective (QL) +	3
----------	Laboratory Science Elective (SCI) +	4
----------	Social Science: Societies and Institutions over Time Elective (SIT)+	3
----------	Social Science: Scientific Study of Human Behavior Elective (SSHB)+	3
----------	Elective from ECON, GEOG, HIST, POLS, PSYC, or SOCA	3
----------	Arts & Humanities Elective (AH) +	3

----------	Elective from ARTA, CMTH, ENGL, MDLA, MUSC, or PHIL	3
----------	Pre-planned Electives (courses that satisfy the requirements of the baccalaureate institution)	30
	Total Credits	**61**

* Students have a choice of ENGL 151L (Literature option), ENGL151R (Report Writing) or ENGL 151T (Technical Writing). Contact your advisor for guidance.

+ Must be selected from the list of approved courses in these categories

- Students must select two Writing Intensive (WI) courses.
- One course should be designated as Diversity and Global Awareness(D).
- Completion of both ENGL101C and ENGL151L satisfy the computer literacy requirement.
- Electives should be chosen from the list of courses which are applicable to AA and AS degrees. The intention in the 30 elective credits is to align the NCC courses with the baccalaureate major toward which the student is working; any substitution must be discussed and approved by the student's academic advisor.

Interior Design

Business & Technology

Degree awarded: Associate in Applied Science
Specialized diploma conferred

Program Narrative

Do you think in color and pattern? Are you sensitive to how people's surroundings can affect their mood, productivity, even their likelihood to make purchases in stores? Interior Design might be for you. Interior Design is the application of the visual principles of color, form, and space to the planning of interior environments. It is the exacting science and vibrant art that creates the places in which we all live and work. It is also a highly skilled profession that challenges you to take into account the structure and utilities of a building, client needs, and budgetary considerations in addition to aesthetics.

Our Interior Design program has been carefully organized to meet the demand for professionally trained interior designers in both residential and contract design. With our associate's degree, you may gain employment upon graduation or consider pursuing a four-year degree.

No special system of accreditation exists for pre-professional interior design programs. Senior schools consider applicants from Northampton on an individual basis and may grant full or partial credit depending on the ability of the student and his or her own transfer requirements. You will need to meet frequently with your faculty advisor in order to structure your course options effectively.

Courses are available for students who want to attend full-time, part-time, during the day or in the evening.

Program Features

First semester courses provide foundational skills and knowledge in drafting, architecture history and interior and architectural design. Second semester courses build upon these foundational skills with the addition of a digital design studio and History II.

The second year major courses all have some prerequisites from the first year and this allows students to extend their learning into more advanced skill areas. You'll also learn more about building technology in the interior structures and materials course.

Computer technology is woven thru the curriculum utilizing ArchiCAD software as a design tool in the studios and AutoCAD in our digital production drawing course. The program includes a four-course design studio sequence where each semester you will develop and execute your own design projects, working in professional design stations. You will use computers equipped with state of the art design and production software.

We also encourage you to get involved with the faculty-advised student chapter of the American Institute of Architects (AIA) which provides opportunities to enrich your education with field studies and related extracurricular activities, including annual trips to major cities.

Our faculty brings current knowledge into your classroom direct from the professional interior design industry faculty are actively pursuing their own careers in interior design, architecture, product design, and related fields. Faculty are members of the American Institute of Architects and American Society of Interior Designers.

Contact the Admissions Office at 610.861.5500 for further information.

Interior Design Program

Program Narrative

This program is designed for both full-time and part-time students. We've designed this program for those who already have a college degree or need an accelerated alternative career path in the Interior Design profession. Returning students with previously earned bachelor's degrees find this program especially appealing. By adding your general education credits previously earned to the 24 credit diploma, you're only a few part-time semesters to an AAS degree.

Along with a broad introduction to the field of Interior Design, you will learn the fundamental principles of design and gain both hand and computer graphic skills in our design studio and graphics courses. The program also offers a focus on the popular specialty area of kitchen and bath design. Your learning experience is capped with an upper level interior design studio where you will complete projects under the guidance of professional architects and designers.

Program Features

Full-time students can complete the program in two twelve-credit semesters offered during the day and in the evening. Part-time students can complete the program in four six-credit semesters all offered at night. It is important for students to become familiar with which courses are Fall offerings and which are Spring offerings so they may complete the program as scheduled.

You can apply all of your specialized diploma courses toward Northampton's AAS in Interior Design. An attractive option many students choose is to complete the Interior Design diploma either full-time or part-time while employed and then enter the associate's degree program during the evening on a part-time basis.

View Gainful Employment information on the Interior Design specialized diploma.

Interior Design

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
ARCH 100	Architectural History I - Antiquity to 1870	3
ARCH 101	Architectural Graphics I	3
ARCH 110	Architectural Design Studio I	3
ENGL 101C	English I	3
INDS 105	Introduction to Interior Design	3
		15
	Second Semester	
ARCH 150	Architecture Design Studio II (Digital)	3
ARCH 155	Architectural History II - 1870 to Present	3
ENGL 151*	English II*	3
INDS 121	Graphics and Presentation Techniques for Interior Designers	
INDS 130	Interior Materials & Structure	3
		15
	Third Semester	
CMTH 102	Speech Communication	3
INDS 100	History of Interior Design & Furniture	3
INDS 165	Kitchen and Lighting Design	3
INDS 225	Residential Interior Design Studio	3
----------	Elective	3
		15
	Fourth Semester	
ARCH 265	Digital Production Drawing	3
INDS 160	Bath and Lighting Design	3
INDS 255	Commercial Interior Design Studio	3
----------	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
----------	Mathematics (QL) or Science (SCI) Elective	3
		15
	Total Credits	**60**

NOTE:

* Students have a choice of ENGL 151L (Literature option), ENGL151R (Report Writing) or ENGL 151T (Technical Writing). Contact your advisor for guidance.

- The Diversity and Global Awareness (D) requirement is satisfied by the completion of ENGL 151L. If a different English II class is completed, select an elective to fulfill the (D) requirement.
- The program-related writing intensive competency is satisfied by a combination of INDS 225 and INDS 255.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirements for this program.

Interior Design

Specialized Diploma

1-YEAR SEQUENCE

Course Code	Course Title	Credits
ARCH 101	Architectural Graphics I	3
ARCH 110	Architectural Design Studio I	3
INDS 105	Introduction to Interior Design	3

INDS 165	Kitchen and Lighting Design	3
ARCH 265	Digital Production Drawing	3
INDS 121	Graphics & Presentation Techniques	
INDS 130	Interior Materials & Structure	3
INDS 255	Commercial Interior Design Studio	3
	Total Credits	**24**

Note: Students can complete the program on a Full-time or Part-time basis.

	2-YEAR SEQUENCE	
Course Code	**Course Title**	**Credits**
	Fall Semester	
ARCH 101	Architectural Graphics I	3
ARCH 110	Architectural Design Studio I	3
		6
	Spring Semester	
INDS 130	Interior Materials & Structure	3
INDS 121	Graphics & Presentation Techniques	3
		6
	Fall Semester	
INDS 105	Introduction to Interior Design	3
INDS 165	Kitchen and Lighting Design	3
		6
	Spring Semester	
ARCH 265	Digital Production Drawing	3
INDS 255	Commercial Interior Design Studio	3
		6
	Total Credits	**24**

Kitchen and Bath Design Program

Specialized Diploma
Specialized diploma conferred

Program Narrative

This program offers students a focused learning experience in the design of kitchens and bathrooms. The program is shorter than the broader Interior Design specialized diploma. It provides an excellent opportunity for the part-time student who wishes to advance quickly in an exciting area of the field. If you decide to continue your education after earning the diploma, you can apply all of your courses toward the longer specialized diploma or to our AAS degree in Interior Design.

Program Features

At the introduction to the program, students will gain a broad knowledge of the field of interior design, followed by individual courses focused on kitchen and bathroom design, including lighting design as it relates to the kitchen and bath environment. Capping the program, students will learn how to produce a set of production drawings. You'll use our state of the art professional studio equipped with the most up-to-date computer design software.

View Gainful Employment information on the Kitchen and Bath Design specialized diploma

Program Outcomes

Graduates of the program will be able to:

1. Demonstrate a fundamental understanding of general principles, values and conventions of the Interior Design esthetic.
2. Use abstract design ideas to interpret design information while investigating alternative outcomes based on research and analysis.
3. Use a diverse range of media to think about and convey interior design ideas including writing, speaking, drawing and model making (both hand and digital media).
4. Employ color presentation graphics and material selection boards to communicate Interior Design solutions.
5. Identify parallel and divergent ideas and traditions of architecture and urban design influenced by the social, cultural, historical and philosophical determinants of a global society.
6. Examine and comprehend history and precedent and make informed choices regarding the incorporation of same into kitchen, bath, residential and commercial design projects.
7. Comprehend the technical aspects of design, systems, materials and fundamental principles of building structure and be able to apply that comprehension to interior spatial solutions.
8. Employ principles and standards of accessibility, safety, lighting, building systems, and acoustic control to advanced spatial design projects.

Interior Design: Kitchen & Bath Design

Specialized Diploma

Course Code	Course Title	Credits
	Fall Semester	
ARCH 101	Architectural Graphics I	3
INDS 105	Introduction to Interior Design	3
		6
	Spring Semester	
ARCH 265	Digital Production Drawing	3
INDS 121	Graphics and Presentation Graphics for Interior Designers	3
		6
	Fall Semester	
INDS 160	Bath and Lighting Design	3
INDS 165	Kitchen and Lighting Design	3
		6
	Total Credits	**18**

Career Potential: Interior Designer, Furniture Representative, Furniture Sales, Fabric Design

NCC students have transferred to: Arcadia University, Moore School of Art, New York School of Interior Design

INDS200 Interior Design Professional Internship (3 cr. optional elective) offered Fall, Spring, Summer 1 and Summer 2 semesters. Please see advisor.

Journalism, Media & Professional Writing

Humanities & Social Sciences

Degree awarded: Associate in Arts

Program Narrative

Northampton's Journalism, Media & Professional Writing Program provides the foundation for a career in the dynamic, digital world of the news media and professional communications in the 21st century. The major prepares students to transfer into a four-year degree program. The program emphasizes practical skills in reporting and writing for print and the web for students with no experience and provides those with some experience an opportunity to enhance their skills.

Students taking the journalism concentration in this major focus on reporting news of interest, relevance and usefulness to the college community, especially its students. This approach stresses "learning by doing," which means students will work in the field covering issues, trends and events at the school, as well as those outside the school that affect the NCC community.

Students taking the business writing concentration will focus on news reporting and writing for publication, but with additional emphasis on skills specific to business communication in a multicultural society.

Graduates with reporting and writing skills and a baccalaureate degree can expect to begin their careers at regional newspapers, web publications or other news outlets, as well as public relations firms, corporate communications offices, or other employers who rely on communications specialists.

Program Features

Students in the journalism concentration are required to participate in the flagship of the program, The Commuter, the student news operation published online and in print. Students in the business writing concentration are welcome to participate on The Commuter.

Students report on the community, both at the College and in the surrounding area. This practical hands-on approach gives students exposure to situations similar to those that professional journalists encounter every day.

Courses in this program are offered primarily during the day. Contact the Admissions Office at 610.861.5500 for more information.

Program outcomes

Graduates of the program will:

Journalism concentration:

- Be critically aware of the roles, legal rights and ethical responsibilities of journalists in a multicultural society.
- Demonstrate responsible news judgment that serves the needs of a multicultural audience.
- Demonstrate ability to edit copy for appropriate, correct English and Associated Press (AP) style.
- Demonstrate ability to write interesting headlines and captions fitting an article or photograph.
- Demonstrate ability to gather material and create news content for print and the web.
- Be able to use various narrative techniques in creating news content for print and the web.
- Demonstrate understanding of the basic operation of desktop and web publishing tools.
- Be able to use social media, search engine optimization and content aggregation to reach and build an intended audience.

Business Writing concentration:

- Demonstrate ability to use journalistic style to plan and produce copy for a public relations campaign.
- Be critically aware of the roles, legal rights and ethical responsibilities of journalists in a multicultural society.
- Demonstrate responsible news judgment that serves the needs of a multicultural audience.
- Demonstrate ability to edit copy for appropriate, correct English and Associated Press (AP) style.
- Demonstrate ability to write interesting headlines and captions fitting an article or photograph.
- Demonstrate ability to gather material and create news content for print and the web.
- Be able to use various narrative techniques in creating news content for print and the web.
- Demonstrate understanding of the basic operation of desktop and web publishing tools.
- Be able to use social media, search engine optimization and content aggregation to reach and build an intended audience.

Journalism, Media & Professional Writing: Journalism Concentration

Associate in Arts Degree

Course Code	Course Title	Credits
	First Semester	
CMTH102	Speech Communication	3
ENGL101	English I	3
JOUR101	Journalism and Society	3
JOUR102	News Editing	3
JOUR104	Media Publication	4
		16
	Second Semester	
CMTH104	Mass Media and Society	3
ENGL151L	English II (Literature)	3
HIST163	American History II	3
JOUR103	Newswriting	3
JOUR110	Journalism Practicum	1
POLS251	State and Local Government	3
		16
	Third Semester	
JOUR110	Journalism Practicum	1
JOUR201G	Feature Writing	3
SOCA103G	Principles of Sociology	3
MATH __	Mathematics Elective (QL)	3
_____	Arts and Humanities Elective (AH)	3
_____	Mathematics or Science Elective (QL/SCI)	3/4
		16/17
	Fourth Semester	
CMTH180	Multimedia Production	3
GEOG101	World Geography	3
JOUR110	Journalism Practicum	1
JOUR202	Social Media for Writers	3
_____	Science Elective (SCI)	4
		14
	Total Credits	62/63

- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

Journalism, Media & Professional Writing: Business Writing Concentration

Associate in Arts Degree

Course Code	Course Title	Credits
	First Semester	
BUSA101	Introduction to Business	3
CMTH102	Speech Communication	3
ENGL101	English I	3
JOUR102	News Editing	3
JOUR104	Media Publication	4
		16
	Second Semester	
CMTH104	Mass Media and Society	3
ENGL151 R or T	English II (Report or Technical Writing)	3

JOUR103	Newswriting	3
POLS251	State and Local Government	3
PSYC103	Introduction to Psychology	3
		15
	Third Semester	
BUSA221G	Business Communications	3
ECON201	Macroeconomics	3
MATH150	Introduction to Statistics	3
_____	Arts and Humanities Elective (AH)	3
_____	Mathematics or Science Elective (QL/SCI)	3/4
		15/16
	Fourth Semester	
CMTH180	Multimedia Production	3
GEOG101	World Geography	3
JOUR202	Social Media for Writers	3
JOUR203G	Public Relations	3
_____	Science Elective (SCI)	4
		16
	Total Credits	62/63

- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

Liberal Arts

Humanities & Social Sciences

Degree awarded: Associate in Arts

Program Narrative

The Liberal Arts program offers students planning to complete a bachelor's degree a strong foundation in both general education and a selected field of concentration. The curriculum has been designed to meet the requirements for the first two years of BA programs at many of the schools to which Northampton students commonly transfer. Northampton has also negotiated a number of Liberal Arts transfer agreements, including dual admissions agreements, with many regional colleges and universities.

Liberal Arts majors often go on to careers in communications, management, public relations, marketing, and the arts. Their generalist background makes them readily employable at many levels in a wide range of career choices.

Program Features

The program is both solid and flexible and provides an excellent, tailored preparation for transfer. Students who are undecided about their future major can explore different options by taking elective courses in various departments. Or electives can be chosen to concentrate in English, History, Philosophy, Political Science, Psychology, Sociology, or Women's and Gender Studies, in order to prepare to major in these disciplines at a transfer institution. Students are encouraged to start taking classes in the chosen concentration in the first semester.

Freedom of choice in this major extends to scheduling as well: courses are available both day and evening, on campus or online.

Concentrations

English Concentration

Students may begin their path to a BA in English or a related field by using the elective credits in the Liberal Arts program toward a concentration in English. To complete the concentration students may select four courses from any of the 200 level English courses.

In English courses students learn how to read and analyze pieces of writing and to respond critically in their own words. A major in English is widely applicable to future careers in journalism, publishing, teaching, business and government.

Environmental Studies Concentration

Students may begin their path to a B. A. in Environmental Studies, or toward career pathways in non-governmental organizations and public service, by selecting 12 credits of course work in Environmental Studies. The Environmental Studies concentration allows a student in the humanities who has an interest in the environment, environmental philosophy, and sustainability to focus his or her coursework in this area.

History Concentration

Students may begin their path to a BA in History by using the elective credits in the Liberal Arts program toward a concentration in History. Students may select 12 credits from any of the history courses.

History is a way of studying the past in order to understand the present. It focuses on how societies, cultures, institutions, and even ideas change over time. The richness of a concentration in this field might include learning Ancient, Modern, European, Eastern, and various aspects of American history.

Intellectually, historians subject evidence, such as documents and secondary sources, to critical analysis. The reading, thinking, and writing required in the history concentration provide an excellent foundation to a wide range of majors and occupations that value these skills.

Philosophy Concentration

Students may prepare for a BA in Philosophy, or begin a pathway to a variety of degrees and careers including law, teaching, and public service, by using the elective credits in the Liberal Arts program toward a concentration in Philosophy. Students need to complete Introduction to Philosophy, and select three additional courses from the following: On Death and Dying, World Religions, Ethics and Moral Problems, Asian Philosophies, Ancient Philosophy, Modern Philosophy or Existentialism.

Philosophy makes life more intellectually interesting, deeply meaningful, and ultimately rewarding. Training includes analysis, argument, interpretation, judgment, creative and critical thinking. Students learn reading, reasoning, speaking, and writing at advanced levels - all transferable skills, for further academics and employment.

Political Science Concentration

Students may begin their path to a BA in Political Science by using the elective credits in the Liberal Arts program toward a concentration in Political Science. Students must take Introduction to Political Science, and may select the remaining three courses from any of the political science courses.

The study of political science provides a way of understanding political processes, governmental systems, and political behavior of individuals or groups in settings ranging from the global to the local. Students learn to analyze political events both in the US and in countries and regions around the world using the key skills of observation, critical thinking, and writing.

Psychology Concentration

Students may begin their path to a BA or BS in Psychology by using the elective credits in the Liberal Arts program toward a concentration in Psychology. Students must take Introduction to Psychology, and may select the remaining three courses from Abnormal Psychology, Psychology of Sex and Gender, Developmental Child Psychopathology, Introduction to Health Psychology, and either Developmental Psychology or Child Psychology (both may not be used for credit).

The study of psychology provides a solid understanding of human behavior and development, critical for careers in education, psychology, and therapy in a variety of settings. Students learn and apply critical thinking skills and the scientific method in order to better understand the human individual.

Sociology Concentration

Students may begin their path to a BA in Sociology or a related field by using the elective credits in the Liberal Arts program toward a concentration in Sociology. Students must take Cultural Anthropology and Principles of Sociology, and may select the remaining two courses from American Ethnicity, Sociology of Families, Deviance, Sociology of Gender, and Social Problems.

Sociology allows students to study the society they live in by examining various groups within societies, cultural traditions, and social problems. Students learn the skills of observation, critical thinking, and writing.

Women's and Gender Studies Concentration

Students may begin their interdisciplinary work in Women's and Gender Studies by applying the elective credits in the Liberal Arts program toward this concentration. To complete the concentration, students may take any four of the following: 20th Century Literature by Women, Psychology of Sex and Gender, Sociology of Gender, Introduction to Women and Gender Studies, and Women and Politics.

Courses in Women's and Gender Studies allow students to understand and develop an awareness of the impact of gender on the human condition as reflected in the sciences and arts as well as in day-to-day life. Students will be able to communicate and use critical thinking skills in evaluating gender theory as they apply it to disciplines including psychology, sociology, literature, political science and others. Given that gender is a universal human condition, a concentration in Women's and Gender Studies is appropriate for students on virtually any educational path, but is especially valuable for those interested in pursuing a career in the social sciences.

Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes

Graduates of the program will:

- Understand the historical and cultural contexts of contemporary civilization.
- Evaluate and discuss diverse points of view.
- Communicate ideas effectively.
- Speak and understand a modern language other than English.
- Retrieve, evaluate, and apply information from a range of sources.
- Develop strategies for solving both abstract and practical problems.

Liberal Arts

Associate in Arts Degree

Course Code	Course Title	Credits
	First Semester	
ENGL 101C	English I	3
CMTH 102	Speech Communication	3

PHIL 201	Introduction to Philosophy	3
HIST _____	History Elective ++	3
----------	Concentration Elective*	3
	or Elective ++	
		15
	Second Semester	
ENGL 151L	English II (Literature)	3
PSYC 103	Introduction to Psychology	3
MATH ___	Mathematics Elective (QL) ++	3
SOCA 103 or	Principles of Sociology or	
SOCA 102	Cultural Anthropology	3
----------	Concentration Elective*	3
	or Elective ++	
		15
	Third Semester	
CMTH 110 or	Introduction to Theatre or	
MUSC 101 or	Introduction to Music or	
ARTA 101 or	Art History Survey or	
DANC 101	Dance History	3
ENGL___	Literature Elective ++	3
MDLA___	Modern Language +	3
----------	Science Elective (SCI) ++	3/4
----------	Concentration Elective*	3
	or Elective ++	
		15/16
	Fourth Semester	
MDLA ___	Modern Language +	3
POLS ___	Political Science Elective ++	3
----------	Mathematics (QL) or Science (SCI) Elective ++	3/4
----------	Concentration Elective*	6
	or Electives ++	
		15/16
	Total Credits	**60/62**

*** For a Concentration Elective in:**

English - Literature Elective and 3 other courses from ENGL2__.

Environmental Studies - Select four courses from among:
GEOG 140 Investigating Climate Change; GEOG 121 Environmental Sustainability (this course can not also be used as a Science elective); GEOG 271 Intro to Geographic Information Systems; HUMA 150 The Nature of the Environment; BIOS 104 Field Ecology (If BIOS104 is used as a science elective, it can not also be counted toward the concentration elective.)

History - History Elective and 3 other courses from HIST ___.

Philosophy - Introduction to Philosophy and 3 courses from the following: On Death and Dying, World Religions, Ethics and Moral Problems, Asian Philosophies, Ancient Philosophy, Modern Philosophy, or Existentialism.

Political Science - Introduction to Political Science, and 3 other POLS___ classes.

Psychology - Introduction to Psychology, and may select 3 courses from Abnormal Psychology, Psychology of Sex and Gender, Developmental Child Psychopathology, Introduction to Health Psychology, Cognitive Psychology, and either Child or Developmental Psychology.

Sociology - Intro to Sociology, Cultural Anthropology, and 2 courses from the following: American Ethnicity, Sociology of Families, Deviance, Sociology of Gender and Social Problems.

Women's and Gender Studies - any 4 courses in the following: 20th Century Literature by Women, Introduction to Women and Gender Studies, Women and Politics, Psychology of Sex and Gender, Sociology of Gender and/or Special Studies in various disciplines.

- For the Electives, students must select one course from the list of approved courses in the category of Social Science: Societies and Institutions over Time (SIT).
- The Mathematics (QL) and Science (SCI) electives must be selected from the list of approved general education courses in each of those categories.
- One course should be designated as Diversity and Global Awareness (D).
- One General Education course must be taken in a Writing Intensive (WI) section. In addition, students must select a second Writing Intensive course.
- Completion of both ENGL101C and ENGL151C satisfy the computer literacy requirement.

+ Six credits of the same modern language are required for graduation.
++ Electives for Liberal Arts:

- Biological Science: any BIOS except not both 105 and 107
- Chemistry: any CHEM except 011, 121, 135
- Communications: all CMTH except 180, 182, 240, 252
- Computer Information Science: CISC 101, 115
- Economics: only ECON 201
- English: only ENGL 201G, 203G, 205G, 250G, 251G, 255G, 256G, 257G, 260G, 264G, 265G
  (ENGL 211G, 215G, 253 and 267 are not applicable literature electives, but may be used as other electives.)
- Geography: any GEOG
- Geology: only GEOL 201
- History: any HIST
- Humanities: any HUMA
- Journalism: JOUR 101, 103, 201
- Mathematics: any MATH except 020, 022, 026, 028, 103, 118, 119
- Modern Languages: any MDLA
- Music: any MUSC
- Philosophy: any PHIL
- Physical Education: any PHED to a maximum of 2 credits
- Physics: any PHYS except 215, 225
- Political Science: any POLS
- Psychology: any PSYC
- Sociology/Anthropology: any SOCA

NOTE: Regarding majors in liberal arts - A student following one of the concentrations in liberal arts listed above or a student planning to major in another field will find it necessary to begin taking courses in that major field early in the program during the first year, and move the free elective to the second year.

Transfer to majors in: English History, Philosophy, Political Science, Psychology, Sociology

NCC students have transferred to: East Stroudsburg University, Kutztown University, West Chester University, Moravian College, DeSales University, Albright College, Cedar Crest College, Penn State, Temple University

Library Technical Assistant

Humanities & Social Sciences

Specialized Diploma conferred

Program Narrative

Today's libraries aren't simply repositories of books and journals, they are technologically-advanced media centers, managing large amounts of information in digital, print and multimedia formats. Library patrons need help navigating this new world, and libraries need trained staff who are able to organize diverse forms of information. The Library Technical Assistant program at Northampton prepares you to enter the workforce as a paraprofessional capable of working in a variety of libraries and information centers.

Northampton's convenient online program focuses particularly on information resources, services for children, and management of small public libraries. Courses address technical skills in such vital areas as acquisitions, electronic formats and cataloging of all types of materials.

Program Features

Members of Northampton Community College's admissions staff can assist you in planning your program of study. Although this program is offered only online, you will be required to visit libraries to investigate print resources and explore types of library services, in addition to reading assigned textbooks and performing online research.

The specialized diploma is a 15-credit program, although courses also can be taken on an as-needed basis to improve skills in specific areas. The specialized diploma is also a good way to start your library science education if you are interested in pursuing a degree.

Professionals in Northampton's Career Services and counseling offices, as well as instructors within the program, can help you meet your employment and career goals.

Program Outcomes

Graduates of the program will:

- Identify the multiple functions of libraries and library services.
- Summarize the role and history of libraries.
- Use critical thinking skills to explore library services, resources, and the planning process.
- Develop assessment skills for identifying, acquiring and organizing resource materials.
- Identify and use key research tools to locate relevant information.
- Evaluate information resources in both paper and electronic formats.
- Use knowledge of current challenges facing libraries to deal effectively with issues such as censorship, funding, service limitations, and technology.

- Develop skills in areas such as budget preparation, personnel, and facilities management to effectively manage a small library.
- Assess and manage technology as it pertains to libraries and library services.
- Use oral, written, and technological skills to communicate effectively with multiple stakeholders/audiences.

Library Technical Assistant

Specialized Diploma: This diploma is offered via the College Online Learning program.

Course Code	Course Title	Credits
LIBT 101	Introduction to Library Service	3
LIBT 209	Computers in Libraries	3
LIBT ___	LIBT Elective Courses*	9
	Total Credits	**15**
*LIBT Elective Course Options:		
LIBT 115	Reference Resources and Services	3
LIBT 203	Technical Services	3
LIBT 207	Library Management	3
LIBT 253	Literature for Children & Young Adults	3

Students must take LIBT 101 Introduction to Library Service; it is strongly urged that they begin the program with this course.

Students must take LIBT 209 Computers in Libraries.

To receive the Specialized Diploma, student can select three of the four elective courses to complete the 15 credit program.

Career Potential: Library Technical Assistant

Massage Therapy

Allied Health & Sciences

Certificate Program

Program Description

The Massage Therapy Certificate Program integrates theory (classroom) and hands-on (lab) training for a career as a professional massage therapist. Students develop the knowledge necessary to develop therapeutic treatment plans and apply appropriate massage techniques with focus on whole body wellness. Graduates are prepared for employment opportunities in hospitals, rehabilitation centers, medical offices, spas, health clubs, and private practice and are eligible to sit for the Massage and Bodywork Licensing Exam (MBLEx).

While in the program, students will have supervised clinical instruction designed to develop client-based skills and techniques. The curriculum is designed sequentially, to allow the student to master basic skills and competencies first, before progressing to more challenging skills and techniques.

Program Features

The program includes 23 credits of general education courses and 13 credits of Massage Therapy instruction. The Massage Therapy courses will be offered at the Fowler Family Southside Center campus where a practice laboratory is located. Students must take the Massage Therapy courses sequentially to ensure that they build their knowledge and skills to practice techniques independently by the completion of the program. The third semester of the program provides students with 16 hours of practice time to refine their skills as an independent practitioner.

The program includes thorough study of human anatomy and physiology which provides the students with scientific basis for safe, competent practice. Students should consult an advisor regarding their preparation for these science courses prior to starting in the program.

View Gainful Employment information on the Licensed Massage Therapy certificate.

Program Admission Requirements

This is a selective admission program. Applicants shall have completed work equal to a standard high school course as evidenced by a diploma or GED and be 18 years of age prior to beginning the program. The minimum admission requirements for the program include: 1) one year of HS biology or NCC equivalent (BIOS107 or 115) with a grade of C or better, 2) complete the English Placement Test (EPT) and be eligible to enroll in English 101 and 3) have an overall HS or most recent college GPA of 2.5 or better.

After acceptance into the program, students are required to:

- Submit results of Criminal History Record Information (CHRI), Child and Elder Abuse History Clearance, and FBI Clearance.
- Submit certificate in Basic Life Support for Health Care Providers.

Program Outcomes

Upon completion of the program, the student will be able to:

1. Plan, organize and safely provide a professional massage and bodywork session to clients from across the lifespan
2. Execute skills required for an entry-level massage therapist utilizing seated, table and floor massage.

3. Display professional behaviors congruent with core values, standards and ethics of the Massage Therapy profession.
4. Demonstrate dignity and respect for cultural diversity, age, gender, lifestyle values and choices of others.
5. Communicate effectively with clients, family members and other healthcare professionals in oral and written formats.
6. Apply critical thinking skills and basic clinical decision-making when administering client centered massage and bodywork.
7. Perform essential business planning and office management skills in the massage practice setting.

Massage Therapy

Certificate Program

Course Code	Course Title	Credits
	First Semester	
CISC101 or OFAD 141+142+143	Introduction to Computers or Introduction to Word + Introduction to Excel + Introduction to Access	3
HEAL 150	Contemporary Health	3
BIOS 204	Human Anatomy & Physiology I	4
MASG 101	Massage Therapy Procedures I	4
		14
	Second Semester	
BIOS 254	Human Anatomy & Physiology II	4
SMAT 202	Applied Anatomy & Kinesiology	3
MASG 102	Massage Therapy Procedures 2	5
		12
	Third Semester	
BUSA 101	Introduction to Business	3
CMTH 102	Speech Communication	3
MASG 210	Massage Therapy Procedures 3	4
		10
	Total Credits	**36**

*NCC Massage Therapy Program meets the 600-hour requirement through both didactic and clinical courses required by PA State Licensing.

Marketing

Business & Technology

Degree awarded: Associate in Applied Science

Program Narrative

Are you interested in planning, organizing or developing marketing programs, advertising campaigns or online promotions using social media? Perhaps you are also interested in a career in sales or want to work in media planning or online marketing? Marketing is a creative field that includes numerous career paths. From marketing management to advertising to non-profit institutions, marketing is an essential tool, and marketing professionals find their work exciting and rewarding. The program is accredited by the Accreditation Council for Business Schools and Programs (ACBSP).

The Marketing program at Northampton focuses on the practical applications of both business and consumer marketing. This program emphasizes employment (specifically in a marketing or marketing-related position, upon graduation) rather than transfer to a four-year college. The program is designed to provide students with the marketing skills needed to enter into the fields of marketing, advertising, public relations, sales, retail management, media planning, customer service or online marketing upon graduation.

Program Features

The Marketing A.A.S. Program includes a strong educational core that emphasizes marketing theory and application of marketing knowledge. Students develop necessary skills required to enhance creativity, critical thinking, problem solving, global perspectives and communication.

Students participate in a marketing simulation course with a focus on designing and presenting a marketing/advertising campaign for an existing business. Students work in groups to conduct a market analysis related to a specific company, develop a media schedule and advertising campaign, and present the plan to company executives. In addition, students gain valuable experience working with a team on real-world projects.

Professionals in Northampton's Career Services Office, as well as instructors within the program, are available to assist students in finding employment in the field.

Program Requirements

The Business Marketing Program contains provisions for a free elective of three credits in addition to the General Education electives. This program can be completed in the day or evening, on a full-time or part-time basis.

Program Outcomes

Graduates of the program will be able to:

- Demonstrate an understanding of general business principles in accounting/finance, management and marketing.
- Apply technological and design skills related to business and marketing promotion.
- Possess strong presentation and communication skills pertinent to business and life.
- Gain an understanding of business ethics and their application in business.
- Work effectively in both individual and team environments.
- Design a cohesive marketing strategy, effectively combining the marketing mix elements of product, price, promotion and place (distribution).

Marketing

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
BUSA 131	Principles of Marketing	3
CISC 101	Introduction to Computers	3
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
MATH____	Mathematics Elective (QL)+	3
		15
	Second Semester	
ACCT 101	Financial Accounting I	3
ARTA 170	Computer Graphics	4
BUSA 205	Management Fundamentals	3
ENGL 151L	English II (Literature)(D)	3
----------	General Education Elective	3
		16
	Third Semester	
ACCT 160 or ACCT202	Accounting Applications or Managerial Accounting	3
ARTA 130	Introduction to Web Site Design	3
BUSA 221G	Business Communications	3
BUSA 235	Principles of Advertising/Public Relations	3
ECON 201	Macroeconomics	3
		15
	Fourth Semester	
BUSA 152	Business Law I	3
BUSA 137	Principles of Selling	3
BUSA 270	Marketing Simulation	3
----------	General Education Elective	3
----------	Elective	3
		15
	Total Credits	**61**

+ Mathematics Elective options: MATH 140, 150, 160, 165, 175, 176, 180, 181

- For General Education Electives, students must take two courses from at least two of the following areas: Arts & Humanities (AH), Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB). Note: ECON 201 is required, so only one additional SSHB may be used as a General Education Elective.
- ENGL151L is designated as the Diversity and Global Awareness (D) requirement.

Career Potential: Sales Representative, Advertising/Promotions Specialist, Retail Manager, Marketing Coordinator/Assistant

Math/Physics

Business & Technology

Degree awarded: Associate in Science
Options: Math and Physics

Program Narrative

Northampton's Math/Physics program prepares you for transfer to a four-year college or university by serving as the first two years of a baccalaureate program in the fields of mathematics, physics, or other physical sciences.

Graduates of our two-year program have successfully transferred to and graduated from institutions such as Lafayette College, Kutztown University, the University of Pittsburgh, and Florida Institute of Technology. They have earned degrees in fields as diverse as chemical or geological engineering, mathematics, and oceanography.

Our program also qualifies you for immediate employment as a laboratory aide or technician, a scientific assistant or in technical sales. Members of Northampton's Career Services and counseling staff, as well as instructors within the program, can assist you in meeting your employment and career goals.

Program Features

In our program, you'll study a combination of common core courses designed for all math or science majors who are specializing in math or physics. You then have the option of focusing on math or physics by selecting a set of specialized courses. In order to ensure that your courses meet the requirements of the school you plan to transfer to, you should work closely with your academic advisor when selecting your electives.

Northampton has a number of special partnerships with four-year institutions. Our admission and transfer agreements allow for smooth transfer to DeSales University, Cedar Crest College, Centenary College, Moravian College, Muhlenberg College, Lincoln or Cheyney Universities.

Program Requirements

While this program has no special admission requirements, certain courses do require a background in Trigonometry and Chemistry. If you are lacking background in these areas, you should acquire it during the summer session before your first semester, or during your first semester.

For further information contact the Admissions Office at 610.861.5500 or e.mail us at physics@northampton.edu.

Program Outcomes

Graduates of the program will:

- Demonstrate proficiency in conceptualization and analysis of problems.
- Demonstrate both conceptual and quantitative ability for problem solving.
- Work independently and also collaboratively.
- Use technology to solve problems.
- Use mathematics to solve problems and make decisions.
- Use the scientific method to investigate a problem and present results and conclusions in a clear and concise form.
- Succeed in a math-physics program at a four-year institution.

Math/Physics - Math

Associate in Science Degree

Course Code	Course Title	Credits
	First Semester	
CISC 115	Computer Science I	4
CMTH 102	Speech Communication	3
ENGL 101	English I	3
MATH 180	Calculus I	4
		14
	Second Semester	
ENGL 151L	English II (Literature)	3
MATH 150	Introductory Statistics	3
MATH 181	Calculus II	4
PHYS 215	Physics for Science and Engineering I	5
		15
	Third Semester	
MATH 202	Discrete Math	3
MATH 210	Calculus III	4
PHYS 225	Physics for Science and Engineering II	5
_____	Arts and Humanities Elective (AH)	3
_____	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
		18
	Fourth Semester	
MATH 211	Differential Equations	4
_____	Social Science: Societies & Institutions Over Time Elective (SIT)	3
_____	Electives	6
		13
	Total Credits	60

- One course should be designated as Diversity and Global Awareness (D).
- One General Education Elective (AH, SIT, SSHB) must be taken in a Writing Intensive (WI) section. The program-related writing intensive competency is satisfied by completion of both combination of PHYS 215 and PHYS 225.

- All electives must be chosen from the list of courses which are applicable to AA and AS degrees.

Math/Physics - Physics

Associate in Science Degree

Course Code	Course Title	Credits
	First Semester	
CHEM 120	General Chemistry I	4
CMTH 102	Speech Communication	3
ENGL 101	English I	3
MATH 180	Calculus I	3
		14
	Second Semester	
CHEM 220	General Chemistry II	4
ENGL 151L	English II (Literature)	3
MATH 181	Calculus II	4
PHYS 215	Physics for Science and Engineering I	5
		16
	Third Semester	
CISC 115	Computer Science I	4
MATH 210	Calculus III	4
PHYS 225	Physics for Science and Engineering II	5
_____	Arts and Humanitites Elective (AH)	3
		16
	Fourth Semester	
MATH 211	Differential Equations	4
_____	Social Science: Societies & Institutions Over Time Elective (SIT)	3
_____	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
_____	Electives	4
		14
	Total Credits	**60**

- One course should be designated as Diversity and Global Awareness (D).
- One General Education Elective (AH, SIT, SSHB) must be taken in a Writing Intensive (WI) section. The program-related writing intensive competency is satisfied by completion of both combination of PHYS 215 and PHYS 225.
- All electives must be chosen from the list of courses which are applicable to AA and AS degrees.

Career Potential: Leading to transfer degrees for careers in: Research, Teaching, Medicine, Forestry Management, Biotechnology, Pharmaceutical Technology, Environmental Studies, Veterinary Medicine

NCC students have transferred to: Lehigh University, Penn State University, Lafayette College, Kutztown University, Edinboro University, Moravian College, East Stroudsburg University, Rutgers University

Medical Assistant

Allied Health & Sciences

Specialized Diploma conferred

Program Narrative

Health care continues to be a growth area of our economy. Varied and satisfying employment opportunities exist, even for individuals with a minimum of science education.

Northampton developed its Medical Assistant specialized diploma program in response to requests from physicians who were looking for workers who were trained in both office and clinical skills. The coursework includes both classroom and lab instruction. Students develop their skills in the academic setting prior to experiencing hands-on clinical instruction in physician practices.

The program progresses sequentially. You will master basic skills and competencies first before moving on to more challenging procedures. Students finish the program with a capstone clinical externship in their third semester. During the externship, you will have the chance to work in the medical office setting under the supervision of a clinical preceptor.

The specialized diploma is part of a career ladder that allows successful students to gain employment at the earliest point in their academic program. Students can also choose to continue their studies full or part-time in a specialized field through direct articulation with other Medical Office Administration programs.

Program Features

Students will learn clerical skills such as keyboarding and the fundamentals of health care reimbursement. Clinical skills include: history taking, vital sign measurement, documenting on the patient record, medication administration, phlebotomy and EKGs.

Students can elect to attend the program on a part-time or full-time basis, but the Medical Assistant Technique courses must be taken in sequence. This program is offered at the Fowler Southside Center and Monroe Campus.

After completing the program, students can sit for the Registered Medical Assistant American Medical Technologist (RMA-AMT) Certification Exam. The program faculty will distribute information about the exam to students at the conclusion of the program.

View Gainful Employment information on the Medical Assistant specialized diploma.

Program Requirements

This is a selective admission program. Applicants shall have completed work equal to a standard high school course as evidenced by a diploma or GED. The minimum admission requirement to the program include: 1) one year of HS biology or NCC equivalent (BIOS105, 107, 115) with a grade of C or better, and 2) one year of HS algebra with a grade of C or better or NCC equivalent (MATH022).

Prior to acceptance, the student is required to take the English Placement Test (EPT) and be able to enroll in English 101 or be able to transfer English 101 or its equivalent.

After acceptance into the program, students are required to

- Carry and maintain health insurance
- Have physical examination
- Submit results of required lab tests, immunizations and drug screen
- Submit certificate in Basic Life Support for Health Care providers throughout the program
- Submit results of Criminal History Record Information (CHRI), Child and Elder Abuse History Clearance and FBI Clearance.

Deadline

In order to be considered, applicants must submit an application and all transcripts by February 1 for Fall semester start. Applications received after this date will be reviewed on a space available basis.

Program Outcomes

Graduates of the program will:

- Demonstrate an understanding of basic human biology and medical terminology as they relate to the role of the medical assistant.
- Perform the administrative, clerical, and clinical competencies of the medical assistant role.
- Demonstrate knowledge of the legal and ethical responsibilities of the medical assistant.
- Function as an assistant to the physician or health care professional in the medical office setting.
- Demonstrate effective written and oral communication skills in the medical assistant role.
- Integrate biopsychosocial principles in delivering care to patients and in performing the medical assistant role.

Medical Assistant

Specialized Diploma

Course Code	Course Title	Credits
	First Semester	
BIOS 130	Basics of Human Anatomy and Physiology	4
MDAS 101	Medical Assistant Techniques I	5
OFAD 101	Keyboarding and Formatting Essentials	3
OFAD 154	Medical Terminology	3
		15
	Second Semester	
MDAS 105	Medical Assistant Techniques II	5
OFAD 172	Health Insurance Basics	3
OFAD 175	ICD-10-CM/PCS Coding Methodologies	3
OFAD 176	CPT Coding Methodology	3
OFAD 240	Medical Office Management	3
		17
	Third Semester	
MDAS 201	Medical Assisting Clinical Externship	4
	Total Credits	**37**

Career Potential: Medical Assistant in office of: physician, dentist, podiatrist, medical clinic, chiropractor, ambulatory surgical unit, and hospital departments.

Multimedia

Humanities & Social Sciences

Specialized Diploma conferred

Program Narrative

Multimedia production involves the creation of audio, video and interactive applications (including games) for the Internet. Northampton's specialized diploma in Multimedia is a six-credit course of study designed for those with previous media and/or computer experience who wish to broaden and update their skills by becoming proficient in multimedia production and interactive CD/DVD ROM authoring.

The diploma program consists of two courses taught in the College's state-of-the-art multimedia lab. You'll have extensive opportunities for hands-on instruction using the latest hardware and software. Because multimedia production is both a technical and an artistic process, we stress aesthetics, creativity, and design in addition to the practical understanding of computer technology. Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes

Graduates of the program will:

- be skilled in the basic operation of multimedia computers and related audio and video equipment.
- be able to formulate and plan multimedia and Internet productions.
- develop their creative intelligence and capacity for creative expression in the form of multimedia and internet applications.
- be able to use various multimedia and Web technologies to communicate information, ideas and feelings to an audience.
- be able to design and use text, graphics, audio and video clips for use in multimedia and the Internet.
- be able to use authoring tools to create interactive applications

Multimedia

Specialized Diploma

Course Code	Course Title	Credits
CMTH180	Multimedia Production	3
CMTH182	Advanced Multimedia Production	3
	Total Credits	**6**

Career Potential: Multimedia Producer, Interactive Game Designer

Nanofabrication Manufacturing Technology

Business & Technology

Degree awarded: Associate in Applied Science

Program Narrative

Nanofabrication manufacturing involves making devices at the smallest dimensions. While it was first used in the semiconductor industry, the technologies are now used for a wide variety of applications. These include miniature sensor arrays for biology and medicine, miniature valves, turbines for fluidics, flat panel displays for computers, and integrated circuits.

As the use of nanofabrication manufacturing technologies by high-tech industries increases, so will the need for trained individuals. Northampton's program prepares graduates for employment as entry-level technicians.

Program Features

The Nanofabrication Manufacturing Technology degree is a cooperative program between Northampton Community College and Pennsylvania State University. In this program, you will begin with three semesters of study at NCC that covers a broad range of electronics and scientific material. You will also complete your required General Education courses at Northampton. These courses help round out your education, preparing you to communicate in the workplace and setting the stage for potential career growth.

The fourth semester of the program is an intensive "capstone" experience taught at Penn State University's Nanofabrication facility at the University Park campus. Students work in a clean room environment and gain experience in operating and troubleshooting nanofabrication processing equipment as well as using characterization tools. The capstone courses are taught by Penn State faculty using state-of-the-art equipment. Please note that the capstone semester is only offered during the spring and summer semesters. There are two options for the capstone: (1) it is offered in a traditional full-semester format that is held at the facility at University Park or (2) it is offered in a hybrid format where students will take courses online and then participate in a two week lab experience at University Park. Room and board are the responsibility of the student. An additional fee is also charged for the capstone (please refer to the fee schedule in the catalog).

Students must have a minimum GPA of 2.5 and be recommended by NCC for the capstone semester. Northampton awards the associate in applied science degree.

Program Outcomes

Graduates of the program will:

- Describe the operation and application of commonly used electronic components and circuits.
- Prototype, test, troubleshoot, and repair electronic circuits.
- Demonstrate the proper use of test equipment including oscilloscopes, DC power supplies, function generators, and multi-meters.
- Collect, record, interpret, and analyze data.
- Interpret technical information in the form of schematics, specifications, graphs, and procedure.
- Record relevant and necessary project information in a working lab notebook.
- Apply the terminology, procedures, equipment to manufacture micro and nanoscale products; and processes used in nanofabrication.
- Apply quality control methodology typical of the industry.
- Demonstrate safe and effective use of nanofabrication processing equipment.
- Demonstrate safe and appropriate maintenance techniques for basic processing equipment used in nanofabrication.
- Identify material and physical hazards associated with basic processing equipment used in nanofabrication.
- Respond appropriately to safety hazards and environmental disposal issues.
- Work both independently and as part of a team.
- Demonstrate written and oral communication skills.
- Use the computer in reporting, analyzing, and researching technical information.
- Be prepared to adapt to changes in the field of nanofabrication.
- Identify industries using nanofab such as opto-electronics, biomedical, sensors, flat panel displays, information storage, micro-electromechanical devices (MEMs), micro-fluidics, solar cells, and microelectronics.

Nanofabrication Manufacturing Technology

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
ELEC 101	DC/AC Circuit Analysis I	4
ELEC 121	Technical Computer Applications	2
ELEC 177	Electronics Manufacturing I	2
ENGL 101C	English I	3
MATH 140	College Algebra	3
----------	General Education Elective	3
		17
	Second Semester	
CMTH 102	Speech Communication	3
ELEC 126	Digital Electronics I	3
ELEC 151	DC/AC Circuit Analysis II	4
ELEC 155	Introduction to Solid State Devices	2
EMEC 115	Mechanical Skills for Technicians	1
ENGL 151T	English II (Technical Writing)	3
		16
	Third Semester	
CHEM 120	General Chemistry I	4
ELEC 207	Solid State Circuits	4
QUAL 210	Statistical Quality Control	3
----------	General Education Elective	3
----------	Elective	3
		17
	Fourth Semester	
(at PSU, Main Campus)		
NANF 211	Materials, Safety and Equipment Overview for Nanofabrication	3
NANF 212	Basic Nanofabrication Processes	3
NANF 213	Thin Films in Nanofabrication	3
NANF 214	Lithography for Nanofabrication	3
NANF 215	Materials Modification in Nanofabrication	3
NANF 216	Characterization, Packaging, and Testing of Nanofabricated Structures	3
		18
	Total Credits	**68**

- For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH), Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).

- One course should be designated as Diversity and Global Awareness (D).
- One General Education course must be Writing Intensive (WI).

Career Potential: Electronics Technician, Process Analyst, Wafer Fab Operator, Engineering Support Technician, Research Technician, Technology Assistant, Project Technician, Device Technician, Photolithography Technician, Manufacturing Technician, Field Service Technician

NOTE: Students completing this program may also complete their Bachelor of Science degree in Technical Management through Franklin University by completing approximately 24 additional course credits at NCC and an additional 40 course credits through Franklin University's online courses. Check with your advisor for more information and options in course selection.

Nursing: LPN

Allied Health & Sciences

Certificate awarded: Practical Nursing

Nursing Handbook (PDF)

Program Narrative

The Practical Nursing (PN) certificate program prepares graduates for entry into the nursing profession as a practical nurse and work under the direction of a licensed registered nurse, licensed physician or dentist. The program includes 27 credits of nursing courses and 16 credits of general education courses and can be completed in one calendar year. It is offered at the Monroe and Bethlehem campus locations.

Graduates who successfully complete the program are eligible to apply to a State Board of Nursing for licensure as a licensed practical nurse and to take the National Council Licensure Exam for Practical Nurses (NCLEX-PN®). This examination is used by the State Board of Nursing to test the entry-level nursing competence of candidates for licensure as licensed practical nurses. When the candidate successfully completes the NCLEX-PN® exam, a license is issued. Information about the NCLEX-PN® exam is available at www.ncsbn.org/nclex.htm.

Students are admitted to the program once a year, in the fall semester. The curriculum focuses on the art and science of nursing, and is taught in classroom, college skills laboratory, and clinical practice settings. Students attend class, skills laboratory and clinical simulation experiences on campus. Additionally, students participate in clinical learning experiences in various healthcare settings and simulated clinical experiences under the guidance of nursing faculty. Clinical learning experiences provide students with the opportunity to apply nursing theory in client care situations. Clinical settings include acute and long term care, in-patient and outpatient facilities.

Class, lab and simulation experiences are scheduled during the day. Most clinical experiences are scheduled during the day between the hours of 6:30 am and 5:00 pm. The college reserves the right to schedule clinical experiences during the evening and/or on weekends if necessary.

General Education courses in the nursing curriculum are offered in traditional and online format during the day and evening. Students may elect to complete general education courses prior to entering the program. All students are encouraged to consult an academic advisor.

View Gainful Employment information on the Nursing: LPN certificate.

Career Potential

Graduates of the program find jobs in a variety of health care settings including long-term care facilities, home health care agencies, state and federal health-related facilities, private duty nursing, clinics, and office settings.

Accreditation Information

The Practical Nursing program is accredited by the Accreditation Commission for Education in Nursing, Inc., 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, 404.975.5000, http://www.acenursing.org and is approved by the Pennsylvania State Board of Nursing.

Program Outcomes

The graduate of the Practical Nursing Program *will:*

1. Demonstrate completion of the curriculum objectives and associated competencies:
    1. Assist in the application of the nursing process to provide nursing care to individuals across the lifespan through efficient and effective use of resources in structured health care settings.
    2. Communicate effectively with patients, their support systems, and the health care team through the use of interpersonal skills and technology.
    3. Assess the health status and health care needs of patients through the collection of data within established protocols and guidelines.
    4. Employ basic clinical decision making based on critical thinking skills to deliver safe effective nursing care under the supervision of an experienced registered nurse, physician, or dentist.
    5. Demonstrate caring interventions based on accepted standards of care and the physiologic and psychosocial needs of the patient.
    6. Collaborate with patients, support persons, members of the health care team and community agencies to provide patient-centered quality care.
    7. Utilize the teaching-learning processes to promote, maintain, and restore health to individuals within their communities.
    8. Demonstrate professional accountability and commitment to standards of professional practice while practicing nursing within legal, ethical and regulatory frameworks.
2. Students will be prepared to successfully complete the National Council Licensure Exam for Practical Nurses (NCLEX-PN®).

3. Students will be satisfied with their nursing education.
4. Students will be prepared for and gain employment in a variety of settings.

Program Entry Requirements

Admission to the Practical Nursing certificate program is selective.

Applicants must have coursework completed equal to a standard high school course with a minimum of 16 units including 4 units of English, 3 units of Social Sciences, 2 units of Mathematics (one of which is Algebra), and 2 units of Science with a related laboratory or the equivalent.

The minimum admission requirements to the program include:

- Completion of high school biology* with a grade of C or better.
  **An acceptable substitute for high school biology is NCC BIOS 115 with a grade of C or better.*
- One year of high school Algebra** with a C or better
  ***An acceptable substitute for Algebra, it is NCC MATH 022 with a grade of C or better.*
- Courses used as admission criteria cannot be used to satisfy degree requirements.
- Cumulative GPA of 2.5 or higher.

Please note: Meeting the minimum admission requirements does not guarantee admission to the Nursing program. Primary consideration is given to those who have received a grade of B or better in the program sciences on the first attempt. If available spaces in the program are not filled by students who have met the aforementioned standards, the College reserves the right to accept students who have, in the judgment of the College, the potential to complete the Practical Nursing program.

Deadlines

In order to be considered for program admission, an application and all transcripts must be submitted by February 1st for fall admission. Applications received after these dates will be reviewed on a space available basis. Contact the Admission Office at 610-861-5500 for additional information.

Nursing Health Requirements

The nursing program health requirements are determined by the Nursing Department, affiliating clinical agencies, the College and by the Pennsylvania State Board of Nursing.

Students are responsible for maintaining compliance with the health requirements annually as outlined below.

- **Prior to the first semester** students must submit the following documents to the Health and Wellness Center:
  - Completed physical examination
  - Two Step Tuberculin Skin Test - acceptable only if done after April 1st for fall admission.
  - Copy of current health insurance card (All students are required to carry health insurance during the program)
  - Urine drug screen results
    - The nursing program of study includes clinical experiences in a variety of healthcare settings. Clinical agencies require evidence of a negative urine drug screen before permitting a student to participate in clinical experiences at their facility. Therefore, any student with a positive urine drug screen cannot remain in the program.
  - Records of up to date immunizations or blood titers reflecting immunity against:
    - MMR (Measles, Mumps, and Rubella) - 2 doses are required if born after 1957
    - Td (Tetanus and Diphtheria) - last dose must be within 10 years.
    - Hepatitis B - series of 3 immunizations and Hepititus B titer
    - Varicella - 2 doses are needed (if received after age 13) or history of Chicken Pox disease.
    - Seasonal Flu
    - Additional immunizations may be required by clinical agencies such as, but not limited to, H1N1 vaccinations.

The Nursing Department reserves the right to withdraw the student from a clinical experience and ultimately the course and program if at any time the student's health requirements are out of compliance.

CPR Certification

Documentation of certification in Basic Life Support (CPR) for Health Care Providers must be submitted to the Nursing Department prior to participating in clinical experiences in the first semester. Certification must remain current throughout the program. Certification courses are available through NCC and the American Heart Association

Essential Functions

Students admitted to the Practical Nursing program are expected to perform the same essential functions of an employment position as a licensed Practical Nurse. The *essential functions* are the basic cognitive, psychomotor, and affective activities that are essential to successful completion of the NCC Practical Nursing curriculum leading to initial licensure as a nurse. Essential functions are categorized as: Sensory (tactile, visual, hearing and smell) communication, psychomotor (gross motor skills, fine motor skills, physical endurance, physical strength, mobility), intellectual and cognitive abilities (reading, arithmetic competence, analytic thinking, and critical thinking), professional and social attributes (interpersonal skills, and communication) and application of legal/ethical principles and professional standards. All students are required to meet these essential functions. Allowing for individual differences, and encouraging program completion for students with a documented disability, the Nursing Program will work with the student and

Disability Services to provide any reasonable accommodation to meet these essential functions. Contact the Nursing Department at 610.861.5376 if you have questions regarding these requirements. A detailed description of these Essential Functions can be found here (PDF).

Background Checks

All convictions and pending or new charges known to the program applicant must be reported to the Nursing Program Director immediately upon offer of program admission. These include all felony and misdemeanor convictions.

After acceptance, but before starting the program, students are required to submit results of Pennsylvania State Police, FBI criminal background checks and Pennsylvania Child and Elder Abuse History Clearances to the nursing department for review.

Program admission is considered conditional pending receipt and evaluation of the background checks and drug screen. Students with a positive urine drug screen or Child Abuse History **are not eligible** for program admission. PA State Police and FBI Criminal History Check results are reviewed on a case by case basis.

Please be advised that licensing and credentialing bodies may apply their own standards to determine what convictions would disqualify a candidate for licensure. A student with a positive background check who completes the program is not guaranteed licensure.

Act 1985-109 known as the Professional Nursing Law of the Laws of Pennsylvania declares the following: "...The Board shall not issue a license or certificate to an applicant who has been convicted of a felonious act prohibited by the act of April 14, 1971 (P.L. 233, No. 64), known as 'The Controlled Substance, Drug, Device and Cosmetic Act', or convicted of a felony relating to a controlled substance in a court of law of the United States or any other state, territory, or country unless:

1. at least ten (10) years have elapsed from the date of conviction;
2. the applicant satisfactorily demonstrates to the board that he has made progress in personal rehabilitation since the conviction such that licensure of the applicant should not be expected to create a substantial risk of harm to the health and safety of patients or the public or a substantial risk of further criminal violations; and
3. the applicant otherwise satisfies the qualifications contained in or authorized by this act.

Sections 133.14. and 15.1 of the Professional Nursing Law imply the will of the legislature in relation to felonies and misdemeanors reflecting questions about moral character.

As used in this section the term 'convicted' shall include a judgment, an admission of guilt or a plea of nolo contendere. An applicant's statement on the application declaring the absence of a conviction shall be deemed satisfactory evidence of the absence of a conviction, unless the board has some evidence to the contrary.Contact the Admissions Office at 610.861.5500 or the Nursing Department at 610.861.5376 for further information.

A nursing student must inform the Director of Nursing Programs immediately if there is a change in the criminal background or child abuse clearance while enrolled in the Practical Nursing program. In these circumstances the student's eligibility to continue in the program will be re-evaluated.

Professional Conduct

Nursing students are expected to conduct themselves in a professional manner in accordance with the Policy on Professional Student Conduct found in the NCC student handbook, and the American Nurses Association Code of Ethics (PDF) and Classroom and Clinical Behavioral Expectations for the Student of Professional Nursing (PDF) documents found in the nursing student handbook.

Progression

A student must maintain a grade of "C" or better in all nursing courses. The policy addressing options for repeating a nursing course can be found in the Practical Nursing Student Handbook (PDF).

Nursing (LPN)

Certificate

Course Code	Course Title	Credits
	First Semester	
BIOS 160	Human Biology	4
ENGL 101C	English I	3
NURS 101	Introduction to Nursing	8
PSYC 103	Introduction to Psychology	3
		18
	Second Semester	
NURS 151	Medical-Surgical Nursing for the Practical Nurse	8
PSYC 258	Developmental Psychology	3
SOCA 103	Principles of Sociology	3
		14
	Third Semester (Summer)	
NURS 205	Geriatric Nursing for the Practical Nurse	4
NURS 206	Maternal Nursing for the Practical Nurse	4
NURS 207	Mental Health Nursing for the Practical Nurse	3
		11
	Total Credits	**43**

* Please note: A student is not permitted to progress to the next semester in the program without successful completion of general studies courses in that current semester.;

MINIMUM CREDITS NEEDED TO GRADUATE: 43

Frequently Asked Questions

Responses to frequently asked questions about the PN Certificate program are available here (PDF).

For More Information Contact:

Nursing Department, Penn Hall 120 C, Northampton Community College, 3835 Green Pond Road, Bethlehem, Pennsylvania 18020. Telephone: 610.861.5376.

Nursing: RN

Allied Health & Sciences

Degree awarded: Associate in Applied Science

Essential Functions (PDF)
Behavioral Expectations (PDF)
Nursing Handbook (PDF)

Program Narrative

The Associate Degree Nursing Program at NCC prepares graduates to assume entry level positions as registered nurses who provide safe, competent nursing care in the various settings of our dynamic, evolving healthcare environment. These settings can include, but are not limited to, acute care, long term care, home care, clinics, physicians' offices, or other agencies established to meet health care needs. Successful completion of the program qualifies graduates to apply to a State Board of Nursing for licensure as a registered nurse and to take the National Council Licensure Exam for Registered Nurses (NCLEX-RN®). This examination is used by the State Board of Nursing to test the entry-level nursing competence of candidates for licensure as registered nurses. When the candidate successfully completes the NCLEX-RN® exam, a license is issued. Information about the NCLEX-RN® exam is available at www.ncsbn.org/nclex.htm.

The Associate Degree Nursing Program requires a minimum of four academic semesters to complete. Students are accepted into the program in fall and spring semesters. The program is only offered at the Bethlehem campus. Students may choose to enter this program in either semester. The curriculum for the Associate Degree Nursing Program focuses on the art and science of nursing, taught in classroom, college skills laboratory, and clinical practice settings. Students attend class, skills laboratory and clinical simulation experiences on campus. Additionally, students participate in clinical learning experiences in various healthcare settings under the guidance of nursing faculty. Clinical learning experiences provide students with the opportunity to apply nursing theory in client care situations. These experiences are scheduled at a variety of health care agencies in the Lehigh Valley and surrounding areas. Clinical settings include acute and long term care, in-patient and outpatient facilities. Class, lab and simulation experiences are scheduled during the day. Most clinical experiences are scheduled during the day between the hours of 6:30 am and 5:00 pm. The college reserves the right to schedule clinical experiences during the evening and/or on weekends if necessary.

The Associate Degree Nursing program is also offered on an evening/weekend schedule. Students are admitted to the evening/weekend alternative program in the spring semester of every other year on the even years.The next cohort of student will be admitted in spring 2018. Classes and college laboratory experiences are offered on campus during the early evening hours, between 5:00 pm and 10:00 pm. Clinical learning experiences for the evening/weekend program are scheduled on weekends between the hours of 6:30 am and 5:00 pm. The college reserves the right to schedule clinical learning experiences during the week if necessary.

General Education courses in the nursing curriculum are offered in traditional and online format during the day and evening. Students may elect to complete general education courses prior to entering the program. All students are encouraged to consult an academic advisor.

Accreditation Information

The Associate Degree Nursing program is accredited by the Accreditation Commission for Education in Nursing, Inc., 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, 404.975.5000, http://www.acenursing.org and has full approval of the Pennsylvania State Board of Nursing.

Program Outcomes

The graduate of the Associate Degree nursing program will:

1. Demonstrate completion of the level outcomes:
    - Utilize the nursing process to provide nursing care through efficient and effective management of resources in a variety of health care settings.
    - Perform ongoing comprehensive assessments of patients' health status and changing needs.
    - Incorporate nursing interventions in the delivery of patient centered care.
    - Employ the teaching-learning processes in the provision of nursing care.
    - Communicate effectively with patients and the health care team through the use of interpersonal skills and technology.
    - Collaborate with patients, members of the health care team and community agencies to achieve quality, patient-centered care.

- Make clinical nursing judgments based on critical thinking skills and evidence-based practice to deliver safe, effective nursing care through the nursing process.
- Demonstrate professional accountability and commitment to standards of professional practice while practicing nursing within legal, ethical and regulatory frameworks

2. Students will be prepared to successfully complete the National Council Licensure Exam for Registered Nurses (NCLEX-RN®).
3. Students will be satisfied with their nursing education.
4. Students will be prepared for and gain employment in a variety of settings.

Program Entry Requirements

Admission is on a selective basis. Applicants shall have completed work equal to a standard high school course with a minimum of 16 units including 4 units of English, 3 units of Social Sciences, 2 units of Mathematics (two of which are Algebra), and 2 units of Science with a related laboratory or the equivalent.

The minimum admission requirements to the program include:

- Completion of high school chemistry and biology with labs and grades of B or better. An acceptable substitute for high school chemistry is NCC CHEM 135 with a grade of B. An acceptable substitute for high school biology is NCC BIOS 115 with a B.
- Two years of high school algebra with a grade of C. An acceptable substitute for high school algebra I and II is MATH 022 and 026 or MATH 028 with grades of C.
- TEAS V results submitted prior to the application deadline.
- Courses used to satisfy admission criteria cannot be used to satisfy degree requirements.
- Students applying to the program must have a minimum GPA of 3.00.
- Primary consideration is given to those who have received a grade of B or better in the program sciences on the first attempt and have a TEAS V academic preparedness level of Proficient with Adjusted Individual Scores on Reading, Math, Science and English at or above the national mean. Additional information on TEAS V testing is available here.

Deadlines

In order to be considered for program admission, an application, all official transcripts, and official TEAS V test results must be submitted by September 15th for spring admission and by February 1st for fall admission. TEAS V results are valid for two years from the test date. Applications received after these dates will be reviewed on a space available basis. Contact the Admission Office at 610.861.5500 for additional information.

Nursing Health Requirements

The nursing program health requirements are determined by the Nursing Department, affiliating clinical agencies, the College and by the Pennsylvania State Board of Nursing. Students are responsible for maintaining compliance with health requirements annually as outlined below.

- Prior to the first semester students must submit the following documents to the Health and Wellness Center:
    - Completed physical examination
    - Two Step Tuberculin Skin Test - acceptable only if done after April 1st for fall admission and October 1st for spring admission.
    - Copy of current health insurance card (All students are required by the College to carry health insurance during the program)
    - Records of up to date immunizations or blood titers reflecting immunity against:
        - MMR (Measles, Mumps, and Rubella) – 2 doses are required if born after 1957
        - Td (Tetanus and Diphtheria) – last dose must be within 10 years.
        - Hepatitis B – series of 3 immunizations and titers
        - Varicella – 2 doses are needed (if received after age 13) or history of Chicken Pox disease.
        - Seasonal Flu
        - Additional immunizations may be required by clinical agencies.
- During the first semester urine drug screen testing is scheduled and results are submitted directly to the Health Center by the service provider. The nursing program includes clinical experiences in a variety of healthcare settings. Clinical agencies require evidence of a negative urine drug screen before permitting a student to participate in clinical experiences at their facility. Therefore, any student with a positive urine drug screen cannot remain in the program.
- Prior to the third semester the Two Step Tuberculin Skin Test must be repeated and results submitted to the Health and Wellness Center.
- In the third semester urine drug screening must be repeated and the results will be submitted to the Health Center by the service provider.

The Nursing Department reserves the right to withdraw the student from a clinical experience and ultimately the course and program if at any time the student's health requirements are out of compliance.

CPR Certification

Documentation of certification in Basic Life Support (CPR) for Health Care Providers must be submitted to the Nursing Department prior to participating in clinical experiences in the first semester. Certification must remain current throughout the program. Certification courses are available through the NCC Center for Healthcare Education and the American Heart Association.

Essential Functions

Students admitted to the Associate Degree Nursing program are expected to perform the same essential functions of an employment position as a licensed Registered Nurse. The essential functions are the basic cognitive, psychomotor, and affective activities that are essential to successful completion of the NCC Associate Degree Nursing curriculum leading to initial licensure as a nurse. Essential functions are categorized as: Sensory (tactile, visual, hearing and smell) communication, psychomotor (gross motor skills, fine motor skills, physical endurance, physical strength, mobility), intellectual and cognitive abilities (reading, arithmetic competence, analytic thinking, and critical thinking), professional and social attributes (interpersonal skills, and communication) and application of legal/ethical principles and professional standards. All students are required to meet these essential functions. Allowing for individual differences, and encouraging program completion for students with a documented disability, the Nursing Program will work with the student and Disability Services to provide any reasonable accommodation to meet these essential functions. Contact the Nursing Department at 610.861.5376 if you have questions regarding these requirements. A detailed description of these Essential Functions (PDF) is found in the online college catalog here (PDF).

Background Checks

All convictions and pending or new charges known to the program applicant must be reported to the Nursing Program Director immediately upon offer of program admission. These include all felony and misdemeanor convictions.

After acceptance, but before starting the program, students are required to submit results of Pennsylvania State Police, FBI criminal background checks and Pennsylvania Child and Elder Abuse History Clearances to the nursing department for review.

Program admission is considered conditional pending receipt and evaluation of the background checks and drug screen. Students with a positive urine drug screen or Child Abuse History **are not eligible** for program admission. PA State Police and FBI Criminal History Check results are reviewed on a case by case basis.

A nursing student must inform the Director of Nursing Programs immediately if there is a change in the criminal background or child abuse clearance while enrolled in the program. In these circumstances, the student's eligibility to continue in the program will be re-evaluated.

Please be advised that licensing and credentialing bodies may apply their own standards to determine what convictions would disqualify a candidate for licensure. A student with a positive background check who completes the program is not guaranteed licensure.

Act 1985-109 known as the Professional Nursing Law of the Laws of Pennsylvania declares the following: "...The Board shall not issue a license or certificate to an applicant who has been convicted of a felonious act prohibited by the act of April 14, 1971 (P.L. 233, No. 64), known as 'The Controlled Substance, Drug, Device and Cosmetic Act', or convicted of a felony relating to a controlled substance in a court of law of the United States or any other state, territory, or country unless:

1. at least ten (10) years have elapsed from the date of conviction;
2. the applicant satisfactorily demonstrates to the board that he has made progress in personal rehabilitation since the conviction such that licensure of the applicant should not be expected to create a substantial risk of harm to the health and safety of patients or the public or a substantial risk of further criminal violations; and
3. the applicant otherwise satisfies the qualifications contained in or authorized by this act.

Sections 133.14. and 15.1 of the Professional Nursing Law imply the will of the legislature in relation to felonies and misdemeanors reflecting questions about moral character.

As used in this section the term 'convicted' shall include a judgment, an admission of guilt or a plea of nolo contendere. An applicant's statement on the application declaring the absence of a conviction shall be deemed satisfactory evidence of the absence of a conviction, unless the board has some evidence to the contrary."
Contact the Admissions Office at 610-861-5500 or the Nursing Department at 610-861-5376 for further information.

Professional Conduct

Nursing students are expected to conduct themselves in a professional manner in accordance with the Policy on Professional Student Conduct found in the NCC student handbook, and the American Nurses Association Code of Ethics (PDF) and Classroom and Clinical Behavioral Expectations for the Student of Professional Nursing (PDF) documents found in the nursing student handbook.

Advanced Placement Program for LPN

The College offers an Advanced Placement program for Licensed Practical Nurses (LPNs) to earn an associate degree and become eligible to take the National Council of Licensing Examination-RN (NCLEX-RN®).

To qualify for the Advanced Placement program, you must:

- Have of C+ or better in Fundamentals of Nursing in the PN program
- Be a Licensed Practical Nurse (LPN) with a current license
- Meet the Registered Nursing program prerequisites
- Submit TEAS® results prior to the application deadline.
- Complete the General Education courses of the Registered Nursing program with a C or better.

Licensed practical nurses may elect to take approved challenge exams for select nursing courses for credit toward the associate degree. Once a student enrolls in a course they are ineligible to gain credit for the course by challenge exam.

Qualified candidates are admitted to the program on a seat available basis. Primary consideration is given to those who received a B or better in the program sciences on the first attempt and have a TEAS® academic preparedness level of Proficient with Adjusted Individual Scores on Reading, Math, Science and English at or above the national mean. Additional information on TEAS® testing is available in this document.

If all spaces in the program are not filled by students who have met the aforementioned standards, the College reserves the right to accept students who have, in the judgment of the College, the potential to complete the Associate Degree in Nursing Program.

Progression

A student must maintain a grade of "C+" or better in all nursing courses. The policy addressing options for repeating a nursing course can be found in the Associate Degree Nursing Student Handbook (PDF).

Nursing (RN)

Associate in Applied Science Degree

Course Code	Course Title	Credits
BIOS 204	Human Anatomy and Physiology I	4
ENGL 101C	English I	3
NURS 101	Introduction to Nursing	8
PSYC 103	Introduction to Psychology	3
		18
	Second Semester	
BIOS 254	Human Anatomy and Physiology II	4
ENGL 151*	English II*	3
MATH 140 or	College Algebra or	
MATH 150	Introductory Statistics	3
NURS 215	Nursing Care of Patients with M/S Problems	8
		18
	Third Semester	
BIOS 202	Microbiology for Allied Health	4
NURS 223	Maternal Child Health Nursing	4
NURS 224	Care of Mental Health Patients	4
PSYC 258	Developmental Psychology	3
SOCA __	Sociology/Anthropology Elective +	3
		18
	Fourth Semester	
CMTH 102	Speech Communication	3
NURS 231	Nursing Seminar	2
NURS 260	Integrated Concepts for Nursing Practice	6
NURS 261	Nursing Practicum	2
PHIL 202G	Ethics and Moral Problems	3
		16
	Total Credits	**70**

Please note: A student is not permitted to progress to the next semester in the program without successful completion of general education courses in that current semester.

* ENGL151L (literature option) is recommended, but R-report writing and T-technical writing options of ENGL 151 are also available.

For the SOCA elective, students must select a SOCA course from the list of approved General Education courses - SOCA 102 or 103 is recommended.

- One course should be designated as Diversity and Global Awareness (D).
- Completion of PHIL 202G satisfies the Writing Intensive (WI) requirement.
- Computer competencies are included in various courses in this program.
  Thus, completing the program automatically satisfies the computing requirement for this program.
- The Social Science (SIT) requirement and the free elective requirement have been waived for this program.

MINIMUM CREDITS NEEDED TO GRADUATE: 70

Frequently Asked Questions (FAQs)

Responses to frequently asked questions about the RN program are available in the online catalog here (PDF).

Responses to frequently asked questions about the new admission requirement for TEAS® testing, directions for creating an ATI account and instructions for registering to take the TEAS® at NCC are available in this document (PDF).

For More Information Contact:

Nursing Department, Penn Hall 120 C, Northampton Community College, 3835 Green Pond Road, Bethlehem, Pennsylvania 18020. Telephone: 610.861.5376.

Transfer Potential

Graduates of the Associate Degree Nursing Program are encouraged to continue their education to earn a Bachelor of Science Degree in Nursing (BSN). NCC has articulation agreements with the following institutions:

- Cedar Crest College
- DeSales University
- Drexel University
- East Stroudsburg University
- Moravian College
- Temple University

Career Potential

For information related to career potential, please visit Your Nursing Career on the American Association of Colleges of Nursing Website.

Office Administrative Assistant

Business & Technology

Degree awarded: Associate in Applied Science

Program Narrative

Northampton's Office Administration degree programs are designed to prepare you for a wide variety of opportunities in a modern office setting. The degrees offered by the Office Administration department are Office Administrative Assistant, and Medical Administrative Assistant. Each program provides course offerings and experiences to prepare the graduate to work as a team player in a specialized office environment.

Your studies will include state-of-the-art office equipment and software. You will learn the marketable skills required to work well with other people in an office environment, and these skills will be applied through a valuable internship experience related to your field of study. We emphasize development of professional attitudes, values, and ethics. As you grow through the program, you will gain critical thinking, priority setting, and decision-making skills needed in today's business environment.

Program Features

The program prepares you to accept the responsibilities and challenges expected of a skilled administrative assistant in businesses of all sizes, from small offices to large corporations. You'll gain proficiency in technology, communication, human relations, time management and organizational skills. You'll also improve your decision-making and creative thinking. Technology training emphasizes word processing, spreadsheet, database, graphics, and communications software applications. In short, you'll grow into an accurate, resourceful, and productive professional comfortable communicating with other professionals in an office environment.

This program can be completed in the day or evening, on a full- or part-time basis.

Program Outcomes

Graduates of the program will:

- Master operation of state-of-the-art industry equipment and software and appropriately utilize these to accomplish work-related tasks accurately and productively in an office environment.
- Utilize and apply specific field-related knowledge, skills, and experiences to function effectively as a team member in today's challenging work environment.
- Exhibit oral, written, and interpersonal communication skills and poise necessary to work effectively with people in business.
- Utilize analytical skills and administrative techniques necessary to organize, prioritize, and manage the information flow in an office setting.
- Exemplify professionally acceptable attitudes, values, and ethics needed in business.
- Procure an appropriate position in business with a commitment to life-long learning to achieve professional growth.

Office Administrative Assistant

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
OFAD 101	Keyboarding and Formatting Essentials I	3
OFAD 144	Microsoft Outlook	1
OFAD 149	Powerpoint	1
OFAD 151	Computer Fundamentals	1
----------	OFAD or BUSA Elective	3
		15
	Second Semester	

ARTA 170	Computer Graphics	4
ENGL 151R	English II (Report Writing)	3
OFAD 121	Keyboarding and Formatting II	3
OFAD 141	Introduction to Word	1
OFAD 142	Introduction to Excel	1
OFAD 143	Introduction to Access	1
----------	General Education Elective	3
		16
	Third Semester	
ACCT 100	Accounting for Non-Accountants	3
ARTA 171	Desktop Publishing I	4
OFAD 201	Advanced Document Production	3
OFAD 125	WordPerfect	3
BUSA 221G	Business Communications	3
----------	General Education Elective	3
		19
	Fourth Semester	
OFAD 230	Office Procedures	3
OFAD 250	Internship	3
----------	General Education Elective	3
----------	General Education Elective	3
----------	Elective	3
		15
	Total Credits	**65**

- For the General Education Electives, students must select one course from the list of approved courses in Mathematics (QL) or Science (SCI). In addition, students must select three courses from at least two of the following categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Completion of BUSA 221G satisfies the Writing Intensive (WI) requirement.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for the program.

Career Potential: Office/Staff Manager

Office Skills Specialist

Business & Technology

Specialized Diploma conferred

Program Narrative

If you would like to work in an office setting but have limited computer experience, you can become a more attractive job candidate by developing your skills. In particular, you'll need to become proficient in the use of the standard suite of computer software. The NCC Office Skills Specialist program prepares you to confidently enter a modern office setting. You can earn your diploma in just one semester.

Course work includes the operation of state-of-the art equipment and business-specific software applications. You'll gain the marketable skills required to work accurately and productively in an office environment.

Program Features

This diploma program provides a unique short-term vehicle to develop the entry-level office software skills needed to become employable in a general office setting. Individual courses are offered in various formats such as online, hybrid, and on campus.

Program Outcomes

Specialized Diploma

Course Code	Course Title	Credits
OFAD 101	Keyboarding and Formatting Essentials I	3
OFAD 141	Introduction to Word	1
OFAD 142	Introduction to Excel	1
OFAD 143	Introduction to Access	1
OFAD 144	Microsoft Outlook	1
OFAD 149	PowerPoint	1
OFAD 151	Computer Fundamentals	1
	Total Credits	**9**

Graduates of the program will:

- Master operation of state-of-the art equipment and software and appropriately utilize these to accomplish work-related tasks accurately and productively in an office environment.
- Procure an appropriate position in an office setting with a commitment to lifelong learning to achieve professional growth.

Career Potential: Office Support Specialist, Information Processor

Paralegal

Business & Technology

Degree awarded: Associate in Applied Science

Program Narrative

The U.S. Department of Labor projects that this profession will continue to grow as fast as the average for all occupations. While paralegals may not provide legal services directly to the public except as permitted by law, the Labor Department's occupational outlook notes that employers are expected to hire more paralegals as they try to reduce costs and increase the efficiency of legal services. Northampton's student-centered learning approach to paralegal education will prepare you to enter this dynamic, high-demand profession.

Northampton's program has been approved by the American Bar Association. **Paralegals may not practice law or provide legal services directly to the public, except as permitted by law.** This prestigious approval places our program in a select group of programs nationwide that are designed and operated to meet the highest standards of paralegal education. For additional information on ABA approval, contact the American Bar Association, Standing Committee on Paralegals, 321 N. Clark Street, 19th Floor, Chicago, IL 60654 or at www.abaparalegals.org.

Program Features

The program offers numerous legal specialty courses and a required internship at a local legal office. You will learn how a paralegal working under the general supervision of an attorney contributes to the delivery of legal services. You will also learn how to master state-of-the-art computer software and hardware, and become a productive and efficient professional within the ever-changing legal profession. Most of the legal specialty courses are taught by attorneys and include pleadings, forms, and software used in local, state, or federal practice.

Graduates will be ready to accept positions such as paralegals, trust coordinators, title searchers, settlement clerks, or litigation specialists. If your quest for knowledge is not complete after two years of study, it is possible to transfer to four-year institutions to complete your baccalaureate degree.

Please note that classes that are offered only during the fall include: Contract Law, Criminal Law and Procedure, Family Law, and Real Estate Law. Classes offered only during the spring include: Business Organizational Law, Estates and Trusts, Law Office Procedures, and Tort Law.

Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes

Graduates of the program will:

- Understand the substantive legal terminology and issues, ethical values, and general office skills needed to function effectively in a legal office environment.
- Demonstrate professional behavior and necessary competencies under the supervision of an attorney in the completion of legal work on behalf of a client.
- Exhibit interpersonal communication skills necessary to work effectively with people in the legal profession.
- Understand the need for and participate in continuing education and professional development opportunities in order to enhance one's value to a legal office.

Paralegal

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
OFAD 101	Keyboarding and Formatting Essentials I	3
PARL 101	Introduction to Paralegal Studies	3
PARL 153	Real Estate Law	3
		15
	Second Semester	
ENGL 151L	English II (Literature)	3
OFAD 125	WordPerfect	3
OFAD 163	Law Office Procedures	3
PARL 187	Litigation Practice and Procedure	3
PARL ____	Paralegal Elective +	3
----------	General Education Elective	3

		18
	Third Semester	
ACCT 101	Financial Accounting I	3
OFAD 141	Introduction to Word	1
OFAD 142	Introduction to Excel	1
OFAD 144	Introduction to Outlook	1
PARL 215G	Legal Research and Writing	3
PARL ____	Paralegal Elective +	3
----------	Mathematics (QL) or Science (SCI) Elective	3/4
		15/16
	Fourth Semester	
PARL 250	Internship	3
PARL ___	Paralegal Elective +	3
----------	Social Science Elective (SIT or SSHB)	3
----------	Social Science Elective (SIT or SSHB)	3
----------	Elective	3
		15
	Total Credits	**63/64**

+ Paralegal Elective options: PARL 151, 156, 161, 162, 163, 166.

- For the General Education Elective and the Social Science Electives, students must select courses so that at least two of the following categories are represented: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- Completion of PARL 215G satisfies the Writing Intensive (WI) requirement.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

Career Potential: Paralegal, Legal Assistant, Trust Coordinator, Title Searcher, Settlement Clerk, Litigation Specialist

Public Health

Allied Health and Sciences

Degree awarded: Associate in Applied Science

Program Narrative

The CDC cites unhealthy lifestyle as the primary contributor to the six leading causes of death in the U.S., which collectively account for over 70% of all deaths and 75% of the nation's healthcare costs. This data illustrates a measurable lack of public health infrastructure. Projections indicate that the U.S. will need an additional 250,000 public health workers by 2020 to meet these rising demands.

We need Public Health and we need people trained in Public Health education to move our population into a healthy and safe future. We need individuals taught to appreciate the importance of health behavior change on the individual, community, population and policy levels. We need people who want to make a difference.

NCC Public Health students have the exciting opportunity to be at the forefront of the transitioning landscape of national and international healthcare promotion and education.

NCC can provide students with the applied skills and knowledge to either enter the workforce directly, or transfer easily into a four-year college or university program.

The career opportunities are endless and the specialties diverse. Graduates would be employable in a variety of settings and career paths, including:

- Health Promotion Counselor
- Health Coach
- Patient Navigator
- Community Health Educator
- Health Communication/Public Relations
- Health Teacher
- Public Health Worker
- Wellness Promotion Specialist

The scope of Public Health is not confined only to traditional clinical, healthcare settings. Possible places of employment include:

- Local, state, and federal agencies
- Health departments
- Educational institutions
- Healthcare organizations
- Health Insurance companies

- Relief organizations
- Advocacy groups
- Crisis agencies
- Research organizations
- Global health agencies

Program Features

This program is designed to provide our graduates with a solid foundation of knowledge and skills crucial to employment within the Public Health arena. Students will explore an evidence-based approach to improving population health and sustaining those changes through core concepts such as health promotion, health education, health communication, health literacy, advocacy, cultural competency, health disparities, diversity, assessment, planning, implementation, evaluation, community engagement, and policy change.

During the final capstone course, Public Health Field Experience, students will have the opportunity to broaden their public health perspectives and gain experience in applying the theory and content learned in their public health coursework. It is expected that the field experience will afford students the opportunity to interact and collaborate with public health professionals and participate in actions that constitute public health. Integral to closing the loop on the learning process is the opportunity for students to reflect on the field experience. Students will meet weekly in a seminar format class focused on sharing, comparing, and contrasting the different infrastructures and approaches they are observing and experiencing at each field location.

This program can be completed in two years of full time study on the Monroe campus of NCC.

Program Requirements

Admission to the program is open to any student meeting the standard college entrance requirements. Successful students will have sufficient backgrounds in math, biology, and English as required by certain program courses. NCC offers preparatory courses that will meet these needs if necessary. Background clearances and medical requirements are based on the internship site requirements.

Program Learning Outcomes

Graduates of the program will:

- Analyze the assessment, planning, implementation, and evaluation of health education interventions and public health programs.
- Identify individual, community and organization health infrastructure.
- Analyze, disseminate and integrate health research and statistics into health promotion.
- Utilize effective public health specific concepts for communication in written and oral format.
- Compare public health initiatives in a variety of diverse settings within community health models.
- Describe the leading causes of morbidity, mortality, and health disparities.
- Define the role of prevention and community collaborations in promoting healthy communities.
- Discuss local, regional, national, and global population health.
- Create and apply a health education intervention including planning, implementing and evaluating.

Public Health

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
BIOS 204	Human Anatomy and Physiology I	4
CMTH 102	Speech Communication	3
ENGL 101	English I	3
MATH 150	Introductory Statistics	3
PUBH 101	Introduction to Public Health	3
		16
	Second Semester	
BIOS 254	Anatomy and Physiology II	4
ENGL 151L	English II (Literature)	3
PUBH 102	Introduction to Epidemiology	3
PUBH 103	Social and Cultural Perspectives of Health	3
SOCA 103	Principles of Sociology	3
		16
	Third Semester	
CISC 101	Introduction to Computers	3
PHIL 202G	Ethics and Moral Problems	3
PSYC 103	Introduction to Psychology	3
PUBH 201	Introduction to Global Health	3
PUBH 202	Public Health Across the Lifespan	3
		15

	Fourth Semester	
PUBH 203	Public Health Education Communication	3
PUBH 204	Community Health Practice	3
PUBH 205	Public Health Field Experience	5
----------	Elective	3
		14
	Total Credits	**61**

Radio/TV

Humanities & Social Sciences

Degree awarded: Associate in Applied Science

Program Narrative

Northampton's Radio/TV program is a highly creative course of study that allows you to explore your potential in communicating ideas through the use of electronic media.

Graduates of this program are qualified to seek employment as television, radio and recording producers, directors, camera operators, disc jockeys, scriptwriters, audio and recording engineers.

As a graduate you may also qualify for employment as a specialist in media production and planning in radio, television and cable companies, as well as business, industry, hospitals and state and local government. The program also prepares you for new fields of media jobs in small video production houses, recording studios, industry and education.

Program Features

Northampton's program includes both academic and technical aspects of Radio/TV. Curriculum includes courses in radio and television production, editing and post-production, audio recording and mixdown, multimedia, communications and writing, social science, and computer graphics. Optional courses include film studies, portable video, and advanced television and recording studio production. Aesthetic considerations are stressed as the program strives to develop your capacity as an electronic artist.

You will gain practical hands-on experience in the college TV studio and media lab, in the college recording studio, on a student-produced cable TV show and radio show, and with local area broadcasters and businesses.

Courses in this program are offered primarily during the day. Contact the Admissions Office at 610-861-5500 for further information.

Program Outcomes

Graduates of the program will:

- be skilled in the basic operation of the audio, video and multimedia equipment used to produce media presentations.
- know and be able to use the technical terms and "language" of media production.
- be able to formulate and plan audio, video and multimedia productions and to explain their plans both orally and in writing.
- be able to collaborate with and direct others in the creation of audio, video and multimedia projects.
- develop their creative intelligence and capacity for creative expression in the form of media arts.
- be able to use various media technologies to communicate information, ideas and feelings to an audience.
- be able to combine or edit basic sound and image elements to generate more complex forms of communication messages.
- be able to critically evaluate media, including their own work and the work of others.
- have an understanding of the business and operating procedures of radio, television and other electronic media and be able to work effectively in various positions in media companies, in companies with media departments or in entrepreneurial situations.
- be aware of and able to analyze the effects of media on individuals, society and culture.
- understand and be able to describe the evolution of media technologies and industries and the forces that shaped them.
- know the laws applying to media and be able to apply them to real situations.

Radio/TV

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CMTH 102	Speech Communication	3
CMTH 103	Mass Communication	3
CMTH 120	Radio Production	3
ENGL 101C	English I	3
----------	Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
		15
	Second Semester	
CMTH 126	The Communication Arts	3
CMTH 170	Television Production	3

CMTH 225G	Scriptwriting	3
ENGL 151*	English II *	3
----------	Mathematics (QL) or Science (SCI) Elective	3/4
		15/16
	Third Semester	
CMTH 221	History of Broadcasting	3
CMTH ___	Media Elective +	3
JOUR 101 or	Journalism and Society or	
JOUR 102 or	News Editing or	
JOUR 103	Newswriting	3
----------	Electives	6
		15
	Fourth Semester	
CMTH 275	Radio-TV Internship	3
CMTH ___	Media Elective +	3
----------	Electives	9
		15
	Total Credits	**60/61**

* Students have a choice of ENGL 151L (Literature option), ENGL151R (Report Writing) or ENGL 151T (Technical Writing). Contact your advisor for guidance.

+ Media Elective Options: CMTH 180, 182, 245, 246, 251, 252

- The Mathematics (QL) or Science (SCI) Elective must be selected from the list of approved courses for those categories.
- Completion of CMTH 225G satisfies the Writing Intensive (WI) requirement.
- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.
- Elective credits may be selected from the following groups or from any courses which meet the transfer or career goals of the students.

Production

- ARTA 130 Introduction to Web Site Design
- ARTA 131 Intro to 3-D Computer Animation
- CMTH 130 MIDI Sequencing and Synthesis
- CMTH 180 Multimedia Production
- CMTH 182 Multimedia Graphics and Animation
- CMTH 240 Portable Video Techniques
- CMTH 245 Audio Recording and Mixdown
- CMTH 252 Video Editing and Post Production
- CMTH 251 Advanced Television Production
- CMTH 246 Advanced Audio Production

Performance

- CMTH 105 Public Speaking
- CMTH 111 Acting I
- CMTH 115 Technical Theatre
- CMTH 117 Stagecraft
- CMTH 122 Radio Workshop
- CMTH 189 Stage Voice and Movement
- CMTH 206 Directing
- CMTH 212 Acting II

Theory

- CMTH 110 Introduction to the Theatre
- CMTH 211/ENGL 211G Plays: Classical to Contemporary
- CMTH 215 Intercultural Communication
- CMTH 230G Intro to Communication Theory
- CMTH 231 Small Group Communication
- CMTH 220 Introduction to Film
- JOUR___ Journalism courses
- SOCA 103 Principles of Sociology
- PSYC 103 Introduction to Psychology

Career Potential: Television/Radio Producer, Audio Producer/Engineer, Multimedia Producer, Director, Camera Operator, Editor, Disc Jockey, Scriptwriter

Important Resources:

- Radio/TV Student Information - http://web.mac.com/acerra/NCC/RTV_Home.html

Radiography

Allied Health & Sciences

Degree awarded: Associate in Applied Science

Clinical Overview and Program Highlights (PDF)

Essential Functions of a Radiographer (PDF)

Virtual Shadowing and Application Advice (PDF)

Career Assessment Form (PDF)

Radiography Student Handbook (PDF)

Radiography Program Mission Statement (PDF)

Radiography Program Goals and Student Learning Outcomes (PDF)

Program Effectiveness Data (PDF)

Required Texts for Incoming Freshman (PDF)

Program Narrative

Medical imaging is a dynamic, fascinating field. It's also a critical element of diagnostic medicine. Radiologists rely on their radiographers to produce optimum images for accurate interpretation.

The modalities in radiology - including sonography, MRI and more - are advancing technologically at an astounding rate. With that in mind, Northampton's Radiography Program introduces its students to all modalities within the curriculum. Our Radiography program is innovative, educationally sound, and vital in providing medical imaging services for the community-at-large.

Our graduates have the option to remain as general diagnostic radiographers or to cross-train in the following areas/modalities:

- Computed tomography (CT)
- Magnetic resonance (MR)
- Bone densitometry (BD)
- Mammography (M)
- Interventional radiology (IR)
- Nuclear medicine (N)
- Radiation therapy (T)
- Diagnostic medical sonography (RDMS)

Diagnostic Medical Sonography is offered at NCC and is listed in the NCC catalog. Each modality requires additional education (may require transfer to another institution of higher learning) and an additional certification examination.

The Radiography Program at NCC is fully accredited by the:

Joint Review Committee on Education in
Radiologic Technology (JRCERT)
20 North Wacker Drive, Suite 2850
Chicago, Illinois 60606-3182
312.704.5300
312.704.5304 (Fax)

E-mail: mail@jrcert.org
Web site: www.jrcert.org

Program Features

The Radiography Program at NCC is 21 months long and operates on both traditional and non-traditional academic calendars. Clinical education at the affiliated hospitals is scheduled during the regular semesters as well as during both summer sessions at the end of the first year for 32 to 40 hours per week.

The Radiography Program has two fully energized radiographic rooms (one digital and the other computed radiography) in the Wogenrich Lab on the Main Campus. The students practice their skills both on-campus and in clinical education.

When students have completed all of their program requirements, they have the option to voluntarily complete 232-240 hours (6 weeks) in an Advanced Skills Internship in one of the following specialties:

- Bone Densitometry (BD)
- Computed Tomography (CT)

- Interventional Radiology (IR)
- Magnetic Resonance (MR)
- Mammography (M)
- Operating Room (OR)

The Advanced Skills Internship is offered through the College's Center for Business & Industry non-credit course offerings and is available to current year May graduates on a space available basis.

Program Admission Requirements

Admission to the Radiography program at Northampton is on a competitive basis. Minimum admission requirements include:

- Completion of high school diploma or GED equivalent
- Submission of official transcript(s)-high school and each college (attended/enrolled)
- One-year of high school biology with a lab and a grade of C or better; Or BIOS 115 with a grade of C or better
- Two-units of algebra with a grade of C or better; Or MATH 022 and MATH 026, Or MATH 028 with a grade of C or better
- Overall GPA of 2.5 or better
- Information session and interview for competitive applicants by program's admission committee

How to apply after obtaining directions and paperwork from the Admissions Office:

- Complete a standard NCC application or reentry Form (if not currently enrolled)
- Request change of major (if currently enrolled)
- Do "virtual" shadowing in radiology
- Submit a completed a "Career Assessment Form" (CAF)

Meeting the minimum admission requirements does not guarantee admission to the Radiography Program.

Primary consideration during the selection process will be given to those who have:

- Grades of B or better (on the first attempt) in college courses such as College Algebra /Introductory Statistics, Human Anatomy I & II or equivalent courses at other colleges
- Total number of completed college credit courses that apply to the program

If available spaces in the program are not filled by students who meet these standards, the College reserves the right to accept students who have, in the judgment of the College, the potential to complete the program.

Deadline:

To receive primary consideration, completed application, "virtual" shadowing experience, and the CAF, along with all official transcripts must be submitted by February 1. Applications received after that date may be too late for the review process.

Contact the Admissions Office at 610.861.5500 for further information.

After You Have Been Accepted

Radiography program students must do the following:

- Obtain necessary immunizations and/or titers.
- Complete a physical examination and submit a completed health form to the Health Center at NCC.
- Have or obtain health insurance.
- Sign a disclosure form stating that you understand the essential functions/technical standards and are able to comply or request reasonable accommodations.
- Have or obtain CPR certification for Healthcare Provider.
- Sign a verification of understanding sheet for the Radiography Program's Student Handbook.
- Sign a verification of understanding sheet for the HIPAA requirements for the didactic and clinical setting.
- Criminal background check and drug screening (until clearance is received, program acceptance is provisional and may be rescinded).

Note:

According to the American Registry of Radiologic Technologists (ARRT), "a criminal record, violations of academic honor codes, suspension or program dismissal may prevent a graduate from taking the ARRT certification examination."

Mission Statement

Our mission is to provide student radiographers with an innovative and educationally sound program that will enable them to deliver quality patient-centered care, use radiation judiciously and display professionalism throughout their career.

Joint Mission Statement between NCC and the Clinical Education Settings

Through mutual respect, in a learner-centered environment, we will collectively educate students to embrace the following components of the profession:

- Effective communication
- Problem solving

- Professionalism
- Radiation safety
- Technical competency and proficiency

Radiography Program Goals and Related Outcomes:

GOAL:

To graduate students who are clinically competent.

The student will be able to:

- Position accurately and in a timely manner in order to visualize the appropriate anatomical structures.
- Select technical factors that will produce an optimal image.
- Employ principles of radiation protection.

GOAL:

To graduate students who communicate effectively through word choice, level of explanation, and method of delivery.

The student will be able to:

- Write an accurate patient history.
- Communicate effectively in written and oral formats with patients, members of the health care team, and the community.
- Listen, understand, and evaluate what the speaker is saying
- Speak using effective word choice, appropriate terminology, level of explanation and method of delivery.

GOAL:

To graduate students who analyze situations using critical thinking to foster better patient care.

The student will be able to:

- Employ critical thinking skills to use appropriate alternative patient positioning and equipment configurations based on patient condition.
- Critique the image and evaluate radiographic quality.
- Manipulate exposure factors to compensate for patient and image variability while minimizing patient dose.

GOAL:

To graduate students who employ the five components of being a true professional – character, attitude, excellence, competency and conduct.

The student will be able to:

- Demonstrate professional attitude, ethics and sound judgment.

Radiography,

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
BIOS 204	Human Anatomy and Physiology I	4
RADT 102	Fundamentals of Radiologic Sciences	3
RADT 107	Clinical Practice I	2
RADT 111	Radiographic Procedures I	4
RADT 114	Introduction to Radiographic Imaging	3
		16
	Second Semester	
BIOS 254	Human Anatomy and Physiology II	4
ENGL 101	English I	3
RADT 125	Sectional Anatomy for Medical Imagers	1
RADT 117	Clinical Practice II	2
RADT 208	Imaging Equipment and Radiation Production	3
RADT 210	Level II Radiographic Procedures	4
		17
	Summer Session	
RADT 147	Clinical Practice III	4
		4
	Third Semester	
CMTH 102	Speech Communication	3
MATH 140 or	College Algebra or	
MATH 150	Introductory Statistics	3
RADT 205	Pathology for Radiographers	2
RADT 207	Clinical Practice IV	3

RADT 230	Radiation Biology/Protection	3
RADT 242	Digital Imaging and Analysis	2
		16
	Fourth Semester	
ENGL 151L	English II (Literature)	3
PSYC 103	Introduction to Psychology	3
RADT 201	Advanced Imaging	2
RADT 217	Clinical Practice V	3
RADT 250	Senior Review	2
----------	Elective	3
		16
	Total Credits	**69**

- Human Anatomy and Physiology I is substituted for one of the Human Knowledge Courses.
- The Social Science (SIT) requirement has been included in program courses.
- The Diversity and Global Awareness (D) requirement is satisfied by the completion of ENGL 151L.
- Writing Intensive (WI) work and computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the Writing Intensive (WI) and computing requirements for this program.

NOTE: It is recommended that those students entering the radiography program without computer skills from previous educational experiences take one if not all of the following Open Entrance/Open Exit 1-credit courses:
OFAD 141 Introduction to Word
OFAD 142 Introduction to Excel
OFAD 143 Introduction to Access

Program Features for Certified / Registered (ARRT) Radiographers

A separate program is offered for currently certified and registered ARRT radiographers who were educated in hospital-based radiography programs and now want to earn an associate's degree. 64 - credits are required for degree completion as follows:

- 32 - credits awarded to currently registered ARRT radiographers
- 32 - credits of specified general education courses

Radiography for Registered Technologists,

Associate in Applied Science Degree

Course Code	Course Title	Credits
----------	Radiography Registry (Current Certification by the ARRT)	32
BIOS 204	Human Anatomy and Physiology I	4
BIOS 254	Human Anatomy and Physiology II	4
CISC ___	Computer Elective	3
CMTH 102	Speech Communication	3
ENGL 101	English I	3
ENGL 151*	English II*	3
MATH 140 or	College Algebra or	
MATH 150	Introductory Statistics	3
PSYC 103	Introduction to Psychology	3
----------	Social Science: Societies and Institutions over Time (SIT) or Arts and Humanities (AH) Elective	3
----------	Elective	3
	Total Credits	**64**

*Students may select English 151L (Literature), English 151R (Report Writing) or English 151T (Technical Writing).

Transfer Potential: Bloomsburg University, Cedar Crest College, Misericordia University, Thomas Jefferson University

Career Potential: Radiographer (R), Administrator, Bone Densitometrist (BD), Interventional Technologist (IR), Computed Tomography Technologist (CT), Health Physicist, Instructor, Mammographer (M), Magnetic Resonance Technologist (MR), Nuclear Medicine Technologist (N), Quality Management [Quality Assurance/Quality Control] (QM), Radiation Therapist (T), Sales Representative, Sonographer (RDMS)

Social Work

Humanities & Social Sciences

Degree awarded: Associate in Arts

Program Narrative

If you are looking for a career with meaning, one that allows you to have a direct and positive impact on the lives of others, social work is an excellent choice. Most positions in the field of social work require a bachelor's degree. Northampton's Social Work program is an affordable beginning to your baccalaureate degree in social work.

Social work requires excellent skills in communication, problem solving, observation, and critical thinking. It is a demanding and rewarding profession. Students in our program are expected to take part in hands-on service learning opportunities and are also encouraged to get involved in Social Work Club activities. If you are interested in learning more about the field, we suggest you consider taking the Introduction to Social Work course.

After graduation from a Bachelor in Social Work degree program (BSW), you may seek professional employment in one of the many social and community agencies locally and beyond or choose to enter a graduate program in social work (MSW). You may then become a licensed social worker.

Program Features

Northampton's core liberal arts curriculum gives you the solid background you will need to transfer successfully. Courses in sociology, psychology, history, and biology compliment the knowledge, values and skills of social work practice in the United States and globally.

Our program transfers to many schools of social work in the region, including Cedar Crest College, Alvernia College, Kutztown University, Marywood University, and Misericordia University. If you have a transfer program in mind, you are encouraged to check with that institution to see what its transfer requirements may be. You can then consult with your Northampton advisor and/or social work faculty for elective recommendations and guidance. The Social Work program is offered at both the Bethlehem and Monroe campuses, and online.

Students in the Social Work program may also use it to work toward a BS in Health Service Administration by starting at Northampton and transferring to East Stroudsburg University. Northampton and ESU have developed a course-for-course agreement so that students may start taking classes for their major while at Northampton, and then seamlessly transfer to ESU to complete the degree.

Program Outcomes

Graduates of the program will:

- Explain the knowledge, values, skills and core competencies of the social work profession at the introductory level.
- Demonstrate knowledge and values of culturally competent social work promoting the strengths and well-being of a diverse society.
- Demonstrate the ability to think critically using a liberal arts foundation to articulate problems and solutions orally and in written communication.
- Demonstrate comprehension of the structure and complexities of societal systems and how they affect the person in his or her environment.

Social Work

Associate in Arts Degree

Course Code	Course Title	Credits
	First Semester	
BIOS105	Contemporary Biology	4
CISC101	Introduction to Computers	3
ENGL101	English I	3
SOCA103	Principles of Sociology	3
SCWK101	Introduction to Social Work	3
		16
	Second Semester	
BIOS130	Basics of Human Anatomy and Physiology +	4
CMTH102	Speech Communication	3
ENGL151L	English II (Literature)	3
PSYC103	Introduction to Psychology	3
SOCA105	American Ethnicity	3
		16
	Third Semester	
ENGL2__G	Literature Elective	3
MATH150	Introduction to Statistics	3
POLS110	American National Government	3
SOCA102	Cultural Anthropology	3
SOCA204	Social Problems	3
		15
	Fourth Semester	
HIST163	American History II	3
PHIL202	Ethics and Moral Problems ++	3
PSYC258	Developmental Psychology	3
SOCA125	Sociology of Families ++	3
_____	Elective	3
		15
	Total Credits	62

+ Students may complete BIOS160 in place of BIOS130
++ Either PHIL202 or SOCA125 should be taken as Writing-Intensive (noted with G)

- The Literature Elective will satisfy one Writing Intensive (WI) requirement
- Completion of SOCA102 will satisfy the Diversity & Global Awareness (D) requirement

- Completion of CISC101 will satisfy the Computer Literacy requirement
- Students should consult their advisor and pick the Elective based on the Social Work program at the college to which they will transfer

Career Potential: You will find Social Workers in: Administration and Management, Advocacy and Community Organization, Aging and Gerontology, Alcohol, Tobacco and Other Drugs, Child Welfare and Family, Developmental Disabilities, Health Care Social Work, Justice and Corrections, International Social Work, Mental Health and Clinical Social Work, Occupational and EAP Social Work, Policy and Planning, Politics, Public Welfare, Research, School Social Work

NCC students have transferred to BSW PROGRAMS AT: Cedar Crest College, Kutztown University, Alvernia College, Millersville University,

Sport Management

Business & Technology

Degree awarded: Associate in Arts

Program Narrative

For every professional player or coach you see on the court, the sports industry employs thousands more people behind the scenes. You could be one. Our new, highly competitive Sport Management program will prepare you to be a first-round draft choice for many professional positions in the sports industry or to launch a business of your own.

You can earn an associate's degree from Northampton after four semesters of full-time study and enter the workforce at the entry level. To be a competitive job candidate, however, a bachelor's degree in the field is recommended.

The Sport Management transfer program combines Northampton's two years of study with two additional years at DeSales University. The bachelor's degree will prepare you for employment in these areas: Intercollegiate Athletics, Professional Sport, Facility Management, Campus Recreation Programs, Community Based Sport, Sport Information, Sport Marketing and Promotion, Sport Law, Fund Raising and Development, Sales, Public Relations, Sport Journalism, Club Management, Corporate Fitness, Physical Fitness, Athletic Training/Sports Medicine, Aquatics Management, Consulting, and Entrepreneurship.

Program Features

Our curriculum includes a strong background in general academic skills and all the specialty courses you will need to transfer into a four-year program. Courses include marketing, event planning, management fundamentals and more. Our agreement with nearby DeSales University assures you a smooth transfer into their Sport Administration program.

Our advisors are ready to coach you in how to get the most out of your NCC experience. You will work closely with professors who want to see you succeed, both academically and in the sports world. Courses in this program are offered primarily during the day.

Contact the Admissions Office at 610.861.5500 for further information.

Program Outcomes

Graduates of the program will:

- Be prepared to transfer into a Sport Management program at a four-year college or university.
- Be able to apply the principles and functions of management to a sport management related venue.
- Be able to use sport marketing knowledge to construct and implement a comprehensive plan for a collegiate event as a member of a planning group.
- Be able to use both current and historical data in order to make a connection between sport and societal issues.
- Be able to identify a career option within the field of Sport Management.

Sport Management

Associate in Arts Degree

Course Code	Course Title	Credits
	First Year	
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
SPRT 101	Introduction to Sport Management	3
CISC___	Computer Elective	3
----------	Physical Education Elective	1
----------	Mathematics Elective (QL)	3
		16
	Second Semester	
BUSA 205	Management Fundamentals	3
ENGL 151R	English II (Report Writing)	3
----------	Arts & Humanities Elective (AH)	3
----------	Social Science: Societies and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior Elective (SSHB)	3

----------	Elective	3
		15
	Third Semester	
BUSA 131	Principles of Marketing	3
PSYC 103	Introduction to Psychology	3
SPRT 152G	Sports in Society	3
----------	Mathematics (QL) or Science (SCI) Elective	3/4
----------	Social Science: Societies and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior Elective (SSHB)	3
		15/16
	Fourth Semester	
SPRT 162	Facility Management and Event Planning	3
----------	Physical Education Elective	1
----------	Social Science: Societies and Institutions over Time (SIT)	3
----------	Science Elective (SCI)	4
----------	Elective	3
		14
	Total Credits	**60/61**

- For their Arts and Humanities (AH) and Social Science: Societies and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB) Electives, students must select courses from the list of approved courses in each of those categories.
- The Mathematics Elective (QL) and at least one of the Science (SCI) Electives must be selected from the list of approved general education courses in each of those categories.
- One course should be designated as Diversity and Global Awareness (D).
- Completion of SPRT 152G satisfies the Writing Intensive program-related requirement. In addition, students must take one General Education course in a Writing Intensive (WI) section.

Career Potential: Management Position in Sport

NCC students have transferred to: East Stroudsburg University, DeSales University, Bloomsburg University, Pennsylvania State University, West Chester University, Kutztown University, Temple University, York College

Sports Medicine and Rehabilitation Sciences

Allied Health & Sciences

Degree awarded: Associate in Science

Program Narrative

The field of sports medicine is gaining in popularity and employment opportunities are expanding. The demand for Certified Athletic Trainers in particular is increasing. Certified Athletic Trainers are employed in secondary schools, colleges, universities, professional sports, hospitals, the military, law enforcement, performing arts, industry, sports medicine clinics and the durable medical equipment industry.

A career as a Certified Athletic Trainer requires a bachelor's degree at the entry level. If you're planning to attend a four-year college or university, Northampton's Sports Medicine: Athletic Training program is an affordable way to start your education. With a curriculum that parallels the first two years of most four-year programs, NCC's program can save you thousands of dollars on your undergraduate degree.

The Associate in Science degree in Sports Medicine and Rehabilitation Sciences is designed to prepare students to successfully transfer to a four year Commission on Accreditation of Athletic Training Education (CAATE) accredited program. Students will also be prepared to transfer to other four year specialty programs within the realm of exercise science. In addition, students in our program develop a level of expertise in sports medicine that opens up additional employment opportunities as a personal trainer or health fitness instructor immediately upon graduation from NCC.

Students in the program learn basic skills in the prevention, emergency care, assessment, and rehabilitation of athletic injuries to prepare them to pursue certification as an athletic trainer. Sports Medicine courses include on-campus labs and observational hours in a variety of professional settings. The Sports Medicine program can be completed on a full-time or part-time basis. Students pursuing the degree on a part-time basis are highly encouraged to complete the science related courses prior to entering the program specific courses (i.e. Chemistry, Anatomy & Physiology, etc.). The program requires students to have a good knowledge base in science and math to be successful. Students are advised to speak with an academic advisor to discuss their entrance and success in the program.
Program Requirements

The Sports Medicine program requires a minimum of four academic semesters to complete. Students are admitted to the program once a year (August). Admission is on a competitive basis. Applicants shall have a high school diploma or GED.

The minimum admission requirements to the program include:

- Completion of high school chemistry with a grade of B or better (or NCC's CHEM 135).
- High school biology (or NCC equivalent BIOS 107, 115) with a grade of C or better.
- One year of HS algebra (or NCC MATH 022) with a grade of C or better.
- Eligibility to take English 101.

Meeting the admission requirements does not guarantee admission to the program. Primary consideration is given to those students who have Bs in program sciences. If available spaces in the program are not filled by students who have met the aforementioned standards, the College reserves the right to accept students who have, in the judgment of the College, the potential to complete the Sports Medicine program.

After You Have Been Accepted

Students who have been accepted to the Sports Medicine program will be required to submit:

- A Pennsylvania State Police Criminal Background Check or FBI Clearance.
- Required physical examination forms and immunization history.
- Documentation of recent hepatitis B vaccination or relevant titer.

Deadline

In order to be considered, you must submit an application and all transcripts by February 1 for the Fall semester start date. Applications received after that date will be reviewed on a space available basis.

Program Outcomes

The Associate in Science in Sports Medicine: Athletic Training program will:

- Prepare students to transfer to and excel in a 4 year Commission on Accreditation of Athletic Training Education (CAATE) athletic training program.
- Provide students with the knowledge to sit for the National Strength and Conditioning Association's Certified Personal Trainer (NSCA-CPT) exam, the American College of Sports Medicine's (ACSM) Certified Personal Trainer exam.
- Students will demonstrate knowledge of prevention, management, and rehabilitation of athletic injuries and begin to bridge the gap between classroom knowledge and clinical practice.
- Students will demonstrate critical thinking and problem solving skills and gain knowledge on how to apply them to athletic training situations.
- Students will gain knowledge in athletic training professional development standards.
- Provide students with knowledge of athletic training practice standards and employment settings as well as the behavioral attitudes needed to excel in the athletic training environment.
- Students will learn effective communication among health care providers and other integral members within the field of athletic training (administrators, coaches, family, and community).

Sports Medicine and Rehabilitation Sciences

Associate in Science Degree

Course Code	Course Title	Credits
	First Year	
CMTH 102	Speech Communication	3
ENGL 101	English I	3
PSYC 103	Introduction to Psychology	3
SMAT 101	Foundations of Sports Medicine and Rehabilitation Sciences	3
SMAT 202	Kinesiology: Applied Anatomy	3
		15
	Second Semester	
BIOS 204	Human Anatomy & Physiology I	4
ENGL 151L	English II (Literature)	3
HEAL 150	Contemporary Health	3
SMAT 230	Prevention and Management of Injury and Illness	3
SMAT 235	Basic Sports Medicine and Rehabilitation Sciences Techniques	1
SOCA 102	Cultural Anthropology	3
		17
	Summer Semester	
CHEM 135	Chemistry of Life	4
SMAT 280	Measurement and Evaluation of the Lower Extremity	3
		7
	Third Semester	
BIOS 254	Human Anatomy & Physiology II	4
MATH 140	College Algebra	3
NUTR 105	Introduction to Nutrition	3
SMAT 285	Sports Medicine and Rehabilitation Sciences Clinical Experience Laboratory	2
----------	Arts & Humanities Elective (AH)	3
		15
	Fourth Semester	
MATH 150	Introductory Statistics	3
PHYS 101	Physics I	4
SMAT 245G	Acute Care of Illness and Injury	3

SMAT 260	Exercise Physiology and Exercise Prescription	3
		13
	Total Credits	**67**

- For the Arts and Humanities (AH) Elective, students must select courses from the list of approved courses in that category.
- Either the AH Elective, PSYC 103, or SOCA 102 must be taken in a writing intensive (WI) section.
- One course should be designated as Diversity and Global Awareness (D).

Career Potential: Certified Athletic Trainer, Personal Trainer, Health Fitness Instructor, Group Fitness Instructor, Exercise Physiologist, Exercise Specialist, Weight Management Consultant

Transfer Potential: East Stroudsburg University, Temple University, West Chester University, DeSales University

Theatre

Humanities & Social Sciences

Degree awarded: Associate in Arts

Program Narrative

The curriculum is designed to parallel the courses and experiences found in the first two years of a B.A. Theatre degree while providing the students opportunities to explore the various concentrations available in theatre arts.

Northampton graduates have transferred to a wide range of four-year institutions, including Temple University, DeSales University, Cedar Crest College, Albright College, Brooklyn College, University of Iowa, University of Missouri at Kansas City, and University of Connecticut.

Program Features

NCC Theatre produces four major productions each season in both the newly renovated 350-seat Lipkin Theatre and the 100-seat Norman R. Roberts Lab Theatre. In addition, there is a variety of ensemble, experimental, touring, and special occasion productions mounted during the year. All NCC students are welcome to participate in productions.

The Theatre Department Faculty have diverse backgrounds and professional experience in acting, directing, technical theatre, design, performance studies, speech communications, oral interpretation, education outreach and children's theatre. The full-time faculty is augmented with a professional costumer, various guest directors, and adjunct faculty.

The program offers field trips to professional theatres in New York, New Jersey and the Philadelphia area, along with specialized workshops by visiting artists, and individual coaching of student auditions and presentations. All graduating students participate in a capstone showcase during their last semester. Graduates in good standing witha GPA of 3.0 or higher may be eligible to receive the Norman R. Roberts Theatre scholarship which is applied to their first semester at a transfer institution

Program Requirements

Before admission to the program, students must successfully complete a departmental interview and audition or presentation. Contact the admissions office at 610.861.5500 for further information. Non-program students are welcome to enroll in any theatre class with the exception of Theatre Portfolio, CMTH 218.

Program Outcomes

Graduates of the program will:

- Demonstrate an understanding of theatre arts as a creative expression that reflects the diversity of human experiences.
- Demonstrate an understanding of the theatrical conventions and cultural/historical backgrounds behind a cross-section of plays and productions.
- Demonstrate theatre practitioners' methods and skills in the collaborative and creative process.
- Begin a lifelong participation in theatre as both audience and artist.

Theatre

Associate in Arts Degree

Course Code	Course Title	Credits
	First Semester	
CMTH 110	Introduction to Theater	3
CMTH 111	Acting I	3
CMTH 102	Speech Communication	3
ENGL 101	English I	3
MATH___	Mathematics Elective (QL)	3
		15
	Second Semester	
ARTA 101	Art History Survey	3
CMTH 115	Technical Theatre	3
CMTH 189 or	Stage Voice and Movement or	1

CMTH 190 or	Stage Production or	
MUSC 130 or	Chorus or	
DANC 1__	any 1 credit DANC course	
CMTH 105	Public Speaking	3
ENGL 151L	English II (Literature)	3
PSYC 103	Introduction to Psychology	3
		16
	Third Semester	
CMTH 211G	Plays: Classical to Contemporary	3
CMTH 212 or	Acting II or	
CMTH 117	Stagecraft	3
CMTH 189 or	Stage Voice and Movement or	1
CMTH 190	Stage Production or	
MUSC 130 or	Chorus or	
DANC 1__	any 1 credit DANC course	
----------	Science Elective (SCI) ++	4
----------	Social Science: Societies and Institutions over Time Elective (SIT)	3
		14
	Fourth Semester	
CMTH 206	Directing	3
CMTH 218	Theatre Portfolio	1
ENGL 2__G	Literature Elective (WI) +	3
MUSC 101	Introduction to Music	3
CMTH___	Television/Film Elective +++	3
----------	Transfer Elective	3
		16
	Total Credits	**61**

+ Literature Elective options: ENGL 203 (Shakespeare) is recommended; but any ENGL 2xxG, Writing Intensive, literature course is acceptable.
++Science Elective options: BIOS 105 (Contemporary Biology) or BIOS 160 (Human Biology) is recommended; but any four-credit lab science course may be taken.
+++ Television/Film Elective options: CMTH 170 (Television Production), CMTH 180 (Multimedia Production), or CMTH 240 (Portable Video Techniques) are recommended; but CMTH 104 (Mass Media & Society), CMTH 126 (The Communication Arts), and CMTH 220 (Introduction to Film) may be taken.

- Computer competencies are included in various courses in this program. Thus, completing the program automatically satisfies the computing requirement for this program.

Career Potential: Transfer program for actors, technicians, designers, directors, and educators. Preparation for entry level employment in Theatre Arts. Skills and Experience to qualify for internships leading to further training and future employment.

Veterinary Technician

Allied Health & Sciences

Degree awarded: Associate in Applied Science

Career Exploration Form (PDF)

American Veterinary Medical Association

Veterinary Technician National Exam Pass Rates (PDF)

Program Narrative

If you love animals and want a career that keeps you in constant contact with them, being a Veterinary Technician is an affordable and accessible way to achieve your goal. Veterinary technicians are animal care professionals. Vet techs are knowledgeable in the care and handling of various species, basic principles of normal and abnormal life processes, laboratory and clinical procedures and veterinary medical and surgical nursing.

Certified veterinary technicians find employment in small and large animal veterinary facilities, the pet food industry, specialty practices, diagnostic labs, pharmaceutical research centers, zoo and wildlife organizations, and educational institutions. The job opportunities are numerous and varied. With more Americans than ever sharing their homes with companion animals, the need for formally trained veterinary technicians in veterinarian practices in particular continues to grow.

Working jointly with Lehigh Carbon Community College, Northampton's Veterinary Technician program will provide you with all the necessary coursework, hands-on training, guidance and experience you need to begin an exciting career working with animals.

Graduates of the program are prepared to sit for the veterinary technician national board examination. Students that pass the exam may obtain certification. This program has received full accreditation from the American Veterinary Medical Association.

Program Features

Northampton's program provides academic and practical experience through a combination of veterinary technology and general education core courses. One-third of veterinary technology courses include laboratory experience including exposure to small, large and exotic animal species.

The culminating experience of the program is a summer externship experience during which students can practice their clinical skills at veterinary hospitals. Instructors in the program are practicing veterinarians and veterinary technicians working in the field.

Classes are held on the NCC and LCCC campuses. There is a clinical science laboratory on the Northampton campus and a Veterinary Training facility adjacent to the LCCC campus provided exclusively for the veterinary technician students. Classes are offered during the day and the program takes 2 full years (fall, spring and summer to complete).
Admission Criteria and Program Requirements

Before Admission:

- High school diploma or GED
- A minimum GPA of 2.5
- High School Biology (with a lab), or college equivalent, with a grade of B or better.
- Completion of high school Algebra I and II ,or college equivalent, with grade C or better
- Submission of official high school transcript or copy of GED and official transcripts from all post-secondary institutions attended.
- Placement into college level English and Math; Any remediation must be completed before starting the program
- Application deadline February 1st for fall semester. Application is made by enrolling as "Veterinary Technician Intent" through the admissions office. If not currently enrolled as "Veterinary Technician Intent", a Change of Major Form must be completed.
- At the time of the application, the student must have completed 20 hours observation in a Veterinary facility within the past year and completed the Career Exploration Form available on NCC homepage.
- Interview by invitation. Only the most qualified applicants are interviewed; the college will contact students to schedule interviews when appropriate.

Please Note: Admission into the Veterinary Technician program is competitive. Meeting the minimum requirements does not guarantee admission into the Veterinary Technician program. If available spaces in the program are not filled by students who have met the aforementioned standards, the College reserves the right to accept students who have, in the judgment of the College, the potential to complete the Veterinary Technician Associate Degree.

After Admission:

- Medical Forms: physical examination
- Proof of current health insurance
- Rabies pre-exposure vaccine.

Contact the Admissions Office at **610.861.5500** for further information.

Program Outcomes

Graduates of the program will:

- Demonstrate competence in performing and engaging in office and hospital procedures, client relations and communication.
- Demonstrate proficiency working in the pharmacy and understand and utilize pharmacologic concepts.
- Safely and competently engage in medical nursing.
- Safely and competently engage in surgical nursing.
- Safely and competently engage in anesthetic nursing.
- Competently perform laboratory procedures.
- Safely and competently perform diagnostic imaging.
- Competently perform laboratory animal and exotic patient husbandry and nursing.

Veterinary Technician

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
CMTH 102	Speech Communication	3
CHEM 135	Chemistry of Life	4
ENGL 101	English I	3
VETC 101	Veterinary Anatomy & Physiology	4
VETC 110	Introduction to Veterinary Technology	3
		17
	Second Semester	
BIOS 202	Microbiology for Allied Health	4
ENGL 151*	English II	3
VETC 115	Animal Management & Nutrition	2

VETC 120	Veterinary Parasitology	2
VETC 125	Veterinary Clinical Laboratory Techniques	4
		15
	Summer Session	
VETC 210	Large Animal Clinical Procedures	3
	Third Semester	
MATH 120	Nature of Mathematics	3
VETC 215G	Animal Disease	3
VETC 218	Veterinary Pharmacology and Anesthesia	3
VETC 220	Small Animal Clinical Procedures	4
_____	Arts & Humanities Elective (AH)	3
		16
	Fourth Semester	
VETC 225	Veterinary Radiology and Surgical Nursing	4
VETC 228	Lab Animal Science & Exotics	4
_____	Social Science: Societies & Institutions over Time (SIT) +	3
_____	Social Science: Scientific Study of Human Behavior Elective (SSHB)++	3
		14
	Summer Session	
VETC 230	Veterinary Technician Externship	3
		3
	Total Credits	**68**

* Students have the choice of ENGL 151L (Literature option), ENGL151R (Report Writing), ENGL151T (Technical Writing). Consult with your advisor.
+It is recommended that students take SOCA 102 as the Social Science: Societies and Institutions over Time (SIT) Elective; this also satisfies the Diversity (D) requirement.
++ It is recommended that students take PSYC 103 as the Social Science: Scientific Study of Human Behavior (SSHB) Elective.

- One course should be designated as Diversity and Global Awareness (D).
- Completion of VETC 215G satisfies the Writing Intensive (WI) requirement.

Career Potential: Veterinary Technician, Biologic Research Labs, Lab Animal Technician, Small Animal Practice, Large Animal Practice, Exotics and Specialty Practices, Zoos, Wildlife Rehabilitation Centers, Pharmaceutical Companies, Teaching Institutes, Diagnostic Labs, Aquariums, Animal Shelters, Animal Feed Companies

Any questions or concerns? Contact one of our Program Directors; Dr. Steven Marks at: smarks@northampton.edu or Dr. Lisa Martini-Johnson at: LMartini-Johnson@northampton.edu.

Web Development

Business & Technology

Degree awarded: Associate in Applied Sciences

Program Narrative

Websites are indispensable tools for every aspect of business. If you're interested in being a part of this growing field of employment, you will want to secure the right set of skills. Attractive job candidates have the ability to design the look of a website and also to program the technical aspects that provide an interactive feel. We have designed our Web Development program to train students for both the creative and technical sides of the job.

Our program is geared toward gaining employment upon graduation, rather than transferring to a four-year college. Upon graduation, students will be equipped with the skills to qualify for positions such as web developer, web programmer, web designer, interactive web developer, web application developer, and director of web services.

Program Features

The Web Development AAS Program offers the student a strong educational core focused on design and programming for the web. Students develop the skills necessary to develop and maintain robust, well-designed, interactive and dynamic web sites. Students study client-side scripting, server-side scripting, object-oriented programming and database systems as a means to develop programming skills. Courses such as Computer Graphics, Introduction to Web Design, Web Animation, and Interactive Programming give students the chance to develop their design skills.

In your final semester, you will develop an Advanced Web Portfolio and create a functional dynamic web site in the capstone course, Advanced Web Technologies. The student portfolio and capstone project will be key tools in your job search.

This program can be completed in two years of full-time study with a combination of day and evening courses.

Program Outcomes

Graduates of the program will be able to:

- Develop effective approaches to solving problems related to web site development.
- Analyze user needs to determine technical requirements for web site creation.
- Design, build, and/or maintain aesthetically pleasing web sites using WYSIWYG editors and graphic design tools, with a focus on usability.
- Develop proficiency with programming, scripting languages, and database design techniques needed for interactive dynamic web applications.
- Exhibit proficiency in both design and technical aspects of web design.

Web Development

Associate in Applied Science Degree

Course Code	Course Title	Credits
	First Semester	
ARTA 170	Computer Graphics	4
CISC 100	Computer Technology I	4
CMTH 102	Speech Communication	3
ENGL 101C	English I	3
----------	General Education Elective	3
		17
	Second Semester	
ARTA 130	Introduction to Web Design	3
ARTA 180	Digital Design & Typography I	3
CISC 128	Client-side Scripting	4
ENGL 151 *	English II *	3
MATH___	Mathematics Elective (QL) ++	3
		16
	Third Semester	
ARTA 132	Web Animation	3
ARTA 240	Advanced Web Site Design	3
CISC 158	Server-side Scripting	4
CISC 270	Data Base Systems	4
----------	General Education Elective	3
		17
	Fourth Semester	
CISC 208	Mobile Development	4
CISC 150	Object-Oriented Programming	4
CISC 201	Advanced Web Technologies	4
----------	General Education Elective	3
----------	Elective +	3
		18
	Total Credits	**68**

* Students have a choice of ENGL 151L (Literature option), ENGL151R (Report Writing) or ENGL 151T (Technical Writing). Contact your advisor for guidance.

+ Suggested elective choices: BUSA 131, ARTA 181.
++ Mathematics Elective options: MATH 140, 145, 150, 160, 165, 175, 176, 180, 181, 202, 210, 211.

- For the General Education Electives, students must take three courses from at least two of the following areas: Arts & Humanities (AH); Social Science: Society and Institutions over Time (SIT) or Social Science: Scientific Study of Human Behavior (SSHB).
- One course should be designated as Diversity and Global Awareness (D).
- One course must be Writing Intensive (WI).

Career Potential: Web Application Developer, Web Designer, Web Programmer, Web Developer, Webmaster, Internet Developer

Web Site Design

Humanities & Social Sciences

Specialized Diploma conferred

Program Narrative

This specialized diploma 16-credit program provides hands-on training and experience in designing compelling and functional web sites. The program is taught in NCC's state-of-the-art Apple computer labs, with 24/7 high speed Internet connection. Students will work with top line professional graphic design and web design software and tools.

The Web Site Design program provides an introduction to the cycle of creative web site design and development as is commonly found in the industry today. Students will develop original design concepts created in Adobe Photoshop and Illustrator software, and build layouts using Adobe Dreamweaver, hand-coded HTML & CSS, Javascript, and Flash elements.

You will learn the basics of Photoshop, Illustrator, and graphic design concepts in Computer Graphics. In *Introduction to Web Design*, students are exposed to modern design and usability concepts, as well as instruction on technical implementation of web layouts in HTML & CSS. The *Advanced Web Site Design* course focuses on concepts related to dynamic, interactive layouts, advanced CSS concepts, javascript galleries and content-manipulation scripts, PHP scripts, and Wordpress layouts. In the *Web Animation* and *Interactive Design* classes, students learn topics related to animation, interactivity, and basic video game design.

Upon completion of the specialized diploma program, students will publish a portfolio of websites and interactive designs online on the personal webspace provided by the college.

Program Features

Course work provides hands-on instruction in basic HTML coding and the use and understanding of current web authoring applications. The majority of work in this program will use web-authoring applications, and will not focus on the use of HTML.

Your web design skills will be developed using Macintosh computers, as well as current scanning, printing and photography hardware in Northampton's well-equipped digital lab. Your assignments will give you practical experience in solving design problems for the Web. You'll also benefit from close student-teacher instruction, as well as interaction with professional Web designers.

View Gainful Employment information on the Website Design specialized diploma.

Program Outcomes

Graduates of the program will:

- Understand the basic concepts and use of HTML scripting language.
- Know how to use current Web design authoring software.
- Know how to optimize graphic files for the Web.
- Know how to use a basic digital camera to capture content for the Web.
- Understand copyright laws as they apply to Web design.
- Understand the history and development of the World Wide Web and the Internet.
- Know how to place a Web site on line using FTP software.
- Know how to test and monitor Web sites that are on line.
- Know how to "tweak" Web sites for viewing on current Web browsers.

Web Site Design

Specialized Diploma

Course Code	Course Title	Credits
ARTA 130	Introduction to Web Site Design	3
ARTA 132	Web Animation	3
ARTA 136	Interactive Design	3
ARTA 170	Computer Graphics	4
ARTA 240	Advanced Web Site Design	3
	Total Credits	**16**

Career Potential: Graduates of the Web Site Design Specialized Diploma program will possess a basic understanding of web site design concepts and applications. Due to the complex and rapidly changing nature of this profession, students are encouraged to seek additional and continual advanced training in order to pursue a career in web site design and development.

Welding Technology

Business & Technology

Degree Awarded: Associate in Applied Science;
Certificate and Specialized Diploma conferred

Welding Technology

Program Narrative

Northampton's Welding Technology A.A.S. degree program is designed to prepare you to enter a modern welding setting. The program offers career-specific coursework for a student wishing to complete their studies within four semesters. The program also provides course offerings that prepare you to work as a team player in a specialized manufacturing environment.

Your studies will include state-of-the-art welding equipment and principles from the American Welding Society. You will learn the marketable skills required to work effectively with other people in a manufacturing environment. We emphasize development of professional attitudes, values, and ethics.

As you progress through the program, you'll gain critical thinking, priority setting, and decision-making skills needed in today's quality-oriented business environment.

Graduates of this AAS degree program may continue on to a Baccalaureate program.

Program Features

This program prepares you for the responsibilities and challenges expected of a highly skilled welder. A welder in today's manufacturing environment is expected to possess numerous skills and abilities that allow them to be problem solvers. At Northampton you will learn a variety of different welding processes and inspection techniques that will allow you to become an asset in the job you obtain after your education is complete. The program may be completed in four semesters if taking courses during the day.

Courses for the Welding Technology A.A.S. degree include Welding Fundamentals, OSHA, Fabrication & Welding Symbols, Introduction to Pipe Welding Processes, Advanced Plate Welding Processes, and Gas Tungsten Arc & Semiautomatic Welding Processes Welding & Structural Blueprint Reading, Advanced Gas Tungsten & Semiautomatic Welding Processes, and Pipe Welding Processes II, and Introduction to Metallurgy.

This program prepares you for the responsibilities and challenges expected of a skilled trades person in the welding environment. Responsibilities of a welder include the ability to read and interpret blueprints at an advanced level, demonstrate advanced level welding principles, and to apply the knowledge of welding inspection principles. Students will gain the knowledge and skills needed to prepare for American Welding Society certification exams while achieving a competency-based degree.

Program Outcomes

Students who complete the Welding Technology program will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Analyze and present data in an acceptable and standardized manner.
- Solve common weldability problems.
- Demonstrate a basic framework of technical vocabulary and graphics interpretation.
- Demonstrate observational, integrative, and synthetic skills.
- Demonstrate the proper use and care of common welding equipment.
- Apply basic defect prevention philosophy and techniques to achieving weld integrity.
- Describe the key process elements and technology commonly found in industrial welding and cutting processes.
- Demonstrate the skills and knowledge needed for the Certified Welding Inspector and Certified Welding Educator certifications. AWS D1.1, ASME Section IX, & API 1104

Endorsed by Local Employers

Potential employers for those following this healthcare career pathway include:

- Manufacturers
- Sheet Metal Fabricators
- Construction Companies
- Gas Line Companies
- Auto Body Repair Shops
- Material Supply Sales Companies

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Dino Forst, Program Manager, at 610.332.6270 or dforst@northampton.edu or the Admissions Office at 610.861.5500 for more information.

Welding Technology

Degree Awarded: Associate in Applied Science

Course Code	Course Title	Credits
	First Semester	
CISC101	Introduction to Computers	3
EMEC118	Hand and Power Tools	1
ENGG117	Technical Drawings and Specifications	3
MATH103	Applications in Mathematics	3
OSAH100	Industry Outreach Safety Education	1
WELD105	Introduction to Welding Processes	5
WELD135	Welding Fabrication and Symbols	2
		18
	Second Semester	
EMEC117	Industrial Rigging	1
ENGL101	English I	3
WELD110	Introduction to Pipe Welding Processes	3
WELD123	Advanced Plate Welding Processes	5
WELD125	GTAW and Semiautomatic Welding Processes	5

		17
	Third Semester	
ENGL151T	English II (Technical Writing)	3
PHYS152	Physical Science II	3
WELD205	Advance Gas Tungsten & Semiautomatic Welding Processes	4
WELD224	Pipe Welding Processes II	3
WELD230	Welding & Structural Blueprint Reading	4
		17
	Fourth Semester	
CMTH102	Speech Communication	3
WELD255G	Introduction to Metallurgy	3
_____	General Education Elective +	3
_____	General Education Elective +	3
_____	Elective	3
		15
	Total Credits:	**67**

Career Potential: Pipefitter/Steamfitter Welder, Pipeline Welder, Sheet Metal Worker, Structural & Pressure Vessel Welder, Welding Shop Foreman.

Welding & Fabrication

Program Narrative

Northampton's Welding programs are designed to prepare you to enter a welding profession. The Welding & Fabrication certificate program is designed to prepare you to enter a welding setting in a short time frame or advance your current welding skills to the next level. The program offers career-specific coursework for a student wishing to complete their studies within three full-time semesters.

Your studies will include state-of-the-art welding equipment and principles from the American Welding Society. You will learn the marketable skills required to work effectively within a welding environment. Strong emphasis on the development of professional attitudes, values, and ethics. As you progress through the program, you'll gain critical thinking, priority setting, and decision-making skills needed in today's quality-oriented business environment.

Graduates of this certificate program can gain employment and then pursue NCC's Welding Technology associate degree program. This program will be of benefit to those who are seeking an entry level position in welding or those who are seeking to change careers. It is also useful for welders in need of updated skills and certification.

Program Features

This program prepares you for the responsibilities and challenges expected of a skilled trades person in a welding setting. Responsibilities of a welder include the ability to read and interpret blueprints at an advanced level, demonstrate advanced level welding principles, and to apply the knowledge of plasma arc cutting principles. Program students will be provided with the knowledge and skills to prepare for the American Welding Society certifications. The program may be completed in as little as three semesters if taking courses during the day.

Courses for the Welding & Fabrication Certificate include Welding Fundamentals, OSHA, Fabrication & Welding Symbols, Introduction to Pipe Welding Processes, Advanced Plate Welding Processes, and Gas Tungsten Arc & Semiautomatic Welding Processes Welding & Structural Blueprint Reading, Advanced Gas Tungsten & Semiautomatic Welding Processes, Plasma Arc Cutting and Pipe Welding Processes II. All of the courses in the certificate can be applied to either the certificate or associate degree welding programs.

Graduates of this certificate program can also continue on to complete the Welding Technology associate degree.

View Gainful Employment information on the Welding certificate. (Should hyper-link to costs, financing [success info not available])

Program Outcomes

Graduates of the Welding & Fabrication certificate program will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Demonstrate safe welding and thermal cutting practices.
- Produce welds that consistently meet American Petroleum Institute (API) 1104 Standard.
- Analyze and present data in an acceptable and standardized manner.
- Solve common weldability problems.
- Demonstrate a basic framework of technical vocabulary and graphics interpretation.
- Demonstrate observational, integrative, and synthetic skills.
- Demonstrate the proper use and care of common welding equipment.
- Apply basic defect prevention philosophy and techniques to achieving weld integrity.
- Describe the key process elements and technology commonly found in industrial welding and cutting processes.
- Demonstrate the skills & knowledge needed to obtain AWS D1.1, ASME Section IX, & API 1104 certifications.

Endorsed by Local Employers

Potential employers for those following this welding pathway include:

- Manufacturers
- Sheet Metal Fabricators
- Construction Companies
- Gas Line Companies
- Auto Body Repair Shops
- Material Supply Sales Companies

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Dino Forst, Program Manager, at 610.332.6270 or dforst@northampton.edu or the Admissions Office at 610.861.5500 for more information.

Welding and Fabrication

Degree Awarded: Certificate

Course Code	Course Title	Credits
	First Semester	
CISC101	Introduction to Computers	3
EMEC118	Hand and Power Tools	1
ENGG117	Technical Drawings and Specifications	3
MATH103	Applications in Mathematics	3
OSAH100	Industry Outreach Safety Education	1
WELD105	Introduction to Welding Processes	5
WELD135	Welding Fabrication and Symbols	2
		18
	Second Semester	
EMEC117	Industrial Rigging	1
ENGL101	English I	3
WELD110	Introduction to Pipe Welding Processes	3
WELD123	Advanced Plate Welding Processes	5
WELD125	GTAW and Semiautomatic Welding Processes	5
		17
	Third Semester	
WELD205	Advance Gas Tungsten & Semiautomatic Welding Processes	4
WELD224	Pipe Welding Processes II	3
WELD230	Welding & Structural Blueprint Reading	4
WELD245	WELD245 Plasma Arc Cutting	3
		14
	Total Credits:	**49**

+ For the General Education Electives, students must complete two courses from two different categories: Arts & Humanities (AH); Social Science: Societies and Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB).

One course should be designated as Diversity and Global Awareness (D).

Career Potential: Welding Educator, Welding Inspector, Welding Sales Representative, Welding Supervisor, Welding Technician.

Welding Fundamentals

Program Narrative

Northampton's Welding programs are designed to prepare you to enter a welding profession. The Welding Fundamentals specialized diploma is designed to prepare you to enter a welding setting in a short time frame or advance your current welding skills to the next level. The program offers career-specific coursework for a student wishing to complete their studies within two semesters.

Your studies will include state-of-the-art welding equipment and principles from the American Welding Society. You will learn the marketable skills required to work effectively within a welding environment. Strong emphasis on the development of professional attitudes, values, and ethics. As you progress through the program, you'll gain critical thinking, priority setting, and decision-making skills needed in today's quality-oriented business environment.

Graduates of this specialized diploma program can gain employment and then pursue NCC's Welding & Fabrication certificate or Welding Technology associate degree programs. This program will be of benefit to those who are seeking an entry level position in welding or those who are seeking to change careers. It is also useful for welders in need of updated skills and certification.

Program Features

This program prepares you for the responsibilities and challenges expected of a skilled trades person in an entry level welding setting. Responsibilities of a welder include the ability to read and interpret blueprints and demonstrate basic welding principles. Students will gain the knowledge and skills needed

to prepare for American Welding Society certification exams while achieving a competency-based academic specialized diploma. The program may be completed in as little as two semesters if taking courses during the day.

Courses for the Welding Fundamentals specialized diploma include Welding Fundamentals, OSHA, Fabrication & Welding Symbols, Introduction to Pipe Welding Processes, Advanced Plate Welding Processes, and Gas Tungsten Arc & Semiautomatic Welding Processes. All of the courses in the specialized diploma can be applied to either the certificate or associate degree welding programs.

Graduates of this specialized diploma can also continue on to complete the Welding & Fabrication certificate or the Welding Technology associate degree with ease.

View Gainful Employment information on the Welding specialized diploma.

Program Outcomes

Graduates of the Welding Fundamentals specialized diploma program will be able to:

- Demonstrate an ability to work independently and collaboratively.
- Demonstrate safe welding and thermal cutting practices.
- Produce welds that consistently meet industry, American Welding Society (AWS) and pressure vessel standards.
- Analyze and present data in an acceptable and standardized manner.
- Solve common weldability problems.
- Demonstrate a basic framework of technical vocabulary and graphics interpretation.
- Demonstrate observational, integrative, and synthetic skills.
- Demonstrate the proper use and care of common welding equipment.
- Apply basic defect prevention philosophy and techniques to achieving weld integrity.
- Describe the key process elements and technology commonly found in industrial welding and cutting processes.

Endorsed by Local Employers

Potential employers for those following this welding pathway include:

- Manufacturers
- Sheet Metal Fabricators
- Construction Companies

This program can be completed in the day or evening, on a full or part-time basis.

Please contact Dino Forst, Program Manager, at 610.332.6270 or dforst@northampton.edu or the Admissions Office at 610.861.5500 for more information.

Welding Fundamentals

Specialized Diploma conferred

Course Code	Course Title	Credits
	First Semester	
EMEC118	Hand and Power Tools	1
ENGG117	Technical Drawings & Specifications	3
OSAH100	Industry Outreach Safety Education	1
WELD105	Introduction to Welding Processes	5
WELD135	Welding Fabrication and Symbols	2
		12
	Second Semester	
EMEC117	Industrial Rigging	1
WELD110	Introduction to Pipe Welding Processes	3
WELD123	Advanced Plate Welding	5
WELD125	Gas Tungsten Arc and Semiautomatic Welding Processes	5
		14
	Total Credits:	**26**

Career Potential: Autobody Repairer, Business Owner, Maintenance Repair Technician, Welding Assistant, Welder Fabricator.

Course Descriptions

Each course that offers academic credit is assigned a credit value based on the number of scheduled student contact hours and the type of teaching modality used to deliver the course. Read the full explanation.

Academic Learning Skills (ACLS)

ACLS 020 College Study Skills (Cr2) (2:0)
This course is designed to assist students in attaining college readiness skills. Students will learn strategies for studying, completing assignments, and time management, and strengthen foundational skills in reading and writing. Students will connect to essential academic college services. Required for students who place into either ENGL 025 or READ 016.

ACLS 025 Academic Reading and Writing Skills I (Cr6) (6:0)
This is the first of two integrated reading and writing courses that provide intensive practice with critical thinking, reading, and writing in a supportive, collaborative environment. It helps students develop the reading and writing and thinking skills necessary to succeed in English I and other college level courses. Students will engage in the reading and writing processes. They will learn and apply the strategies and develop the skills needed to understand challenging academic reading and to write academic essays. Prereq. - Placement as determined by English and Reading departments through testing.

ACLS 026 Academic Reading and Writing Skills II (Cr6)(6:0)
This is the second of two integrated reading and writing courses that provide intensive practice with critical thinking, reading, and writing in a supportive, collaborative environment. The course helps students develop the reading and writing and thinking skills necessary to succeed in English I and other college level courses. Students will engage in the reading and writing processes. They will learn and apply the strategies and develop the skills needed to understand challenging academic reading and to write academic essays. Prereq. - Placement as determined by English and Reading departments through testing or course work

ACLS 050 Introduction to Academic Literacy (Cr4) (4:0)
This integrated and accelerated reading and writing course provides intensive practice with critical thinking, reading, and writing in a supportive, collaborative environment. It helps students develop the reading and writing skills necessary to succeed in English I and other college level courses. Students will engage in the reading and writing processes. They will learn and apply the strategies and develop the skills needed to understand challenging academic reading and to write academic essays. Prereq. - Placement as determined by the Reading and English departments through testing.

Accounting (ACCT)

ACCT100 Accounting for Non-Accountants (Cr3) (3:0)
This course examines how business transactions are recorded, summarized, and interpreted for business decision-making purposes. Students will apply the accounting cycle, from event and transaction recognition to financial statement preparation, review, and appreciation. This course will provide a broad knowledge of accounting basics and is designed for non-business majors. Only one of the following: ACCT 100 or ACCT 101 may be applied to a degree. ACCT 100 cannot be used as a substitute for ACCT 101. Also available through Online Learning.

ACCT101 Financial Accounting I (Cr3) (3:0)
This course is the analysis and interpretation of basic accounting structure, systems, and controls applicable to various business entities. Students develop the ability to prepare and analyze the financial statements of sole proprietorships. This course provides an introduction to financial accounting, including generally accepted accounting principles, financial statement preparation, the accounting cycle, specialized journals, accounting for cash, accounts receivable, sales, inventories, and long-lived assets. Both service and retail businesses will be discussed. Only one of the following: ACCT100 or ACCT101 may be applied to a degree. ACCT100 cannot be used as a substitute for ACCT101. Also available through Online Learning.

ACCT151 Financial Accounting II (Cr3) (3:0)
This course continues the study of introductory financial accounting concepts including partnerships, short and long-term investments, short and long-term notes payable, bonds payable, cash flow statement, the study of corporate accounting, and financial statement analysis. Students develop the ability to prepare and analyze the financial statements of public corporations. Also available through Online Learning. Prereq. - ACCT101.

ACCT 160 Accounting Applications (Cr3) (3:0)
In this course students will learn both payroll accounting and QuickBooks. In a hands-on environment, students learn the design and function of a computerized accounting information system, with the emphasis on providing information for external users and for management decision making. The course includes the principles of accounting information systems, the relationship of computerized accounting systems to manual systems, transaction processing, and report generating using an accounting software package, and the application of management decision-0making tools using appropriate software. The payroll accounting portion of the course will include personnel and payroll records, Fair Labor Standards Act, phases of the Social Security Act, and Federal Income Tax Withholding laws. Prereq.- ACCT 101. Also available through Online Learning.

ACCT 201 Intermediate Accounting I (Cr4) (4:0)
This course is a corporate accounting course dealing with the principles of financial theory and development of accounting theory. This course is the study of accounting principles and procedures essential to the preparation of financial statements with particular emphasis on the course form. Topics of coverage include financial statements, current assets, inventory, property, plant, and equipment, and intangible assets. This course is the first of a series of two intermediate financial accounting courses. It builds on the foundation laid in the two introductory accounting courses to better equip students with the required techniques in preparing and interpreting financial statements. It also examines the conceptual framework of accounting and financial statement presentation. Also available through Online Learning. Prereq. - ACCT151

ACCT 202 Managerial Accounting (Cr3) (3:0)

This course gives an understanding of the ways in which management accountants provide relevant information for a variety of decisions to be made in managing any organization. This course emphasizes the uses of accounting information for managerial decision making, planning and control, and cost accumulation and allocation. This course is a study of the uses of accounting information for managerial decision making. Areas of focus include: manufacturing, merchandising, and service cost systems; cost-volume-profit analysis; budgeting; variance analysis, responsibility accounting, and capital investment decision making. Also available through Online Learning. Prereq. - ACCT101

ACCT 205 Cost Accounting (Cr3) (3:0)
This course is an introduction to cost accounting as a managerial tool. The examination of the accounting practices to record and control material, labor, and overhead costs. The study includes an in-depth look at job-order, process cost and standard cost system for manufacturing and service firms. Cost accounting provides key data to managers for planning and controlling, as well as data on costing products, services, and customers. Emphasis will be placed upon the application of cost accounting theory in the solution of problems and case studies. Also available through Online Learning. Prereq.- ACCT151

ACCT 220 Income Tax Accounting (Cr3) (3:0)
This course is a study of current federal income tax as it applies to the individual taxpayer. The course focuses on the preparation of federal income tax returns for individuals and small businesses based on current law, regulations, and current trends in practice. Students analyze the current federal regulations and how these laws affect the income tax liability of individuals. Students are required to complete tax returns using a software package. Also available through Online Learning. Prereq. - ACCT151

ACCT 251 Intermediate Accounting II (Cr3) (3:0)
This course is the second of two courses dealing with corporate accounting and is a continuation of ACCT 201. Its purpose is to gain a sound understanding of generally accepted accounting principles governing the recognition and measurement of liabilities and equity. The topics covered include liabilities, contingencies, stockholders' equity, post-retirement benefits, leases, accounting changes and error correction, statement of cash flows, financial statement analysis, and full disclosure. Students will learn how to apply some of the many accounting and economic concepts they have learned to the analysis of a company's financial position and performance as shown in published information, primarily focusing on financial statements. Also available through Online Learning. Prereq. - ACCT201

ACCT 255 Principles of Auditing (Cr3) (3:0)
This course introduces students to the concepts, principles, and practical applications of auditing in the business and accounting world. The course is an analysis and appraisal of current auditing principles and procedures involving staff organization, professional ethics and legal responsibility, internal control, audit programs and working papers and original record examination. The course emphasizes the concepts and practical applications that will serve as a foundation for developing auditing skills. Students are required to complete a comprehensive audit case study. Also available through Online Learning. Prereq. - ACCT201

Architecture (ARCH)

ARCH 100 Architectural History I - Antiquity to 1870 (Cr3) (3:0)
Understanding the physical environment through the study of dominant architectural attitudes, forms, and functions as influenced by the social, cultural, historical and philosophical determinants of architecture through the ages, its continuity with the past, and its relation to the present; methods of historical inquiry and comparative analysis; emphasis on classical and neoclassical periods. Core: AH (Architecture only). Offered fall semester only.

ARCH 101 Architectural Graphics I (Cr3) (2:2)
Basic skills of architectural communication; developing design drawings and visualization skills and their relationship to the design process; freehand and drafted methods including projections in orthographic and paraline drawings, shades and shadows; emphasis on freehand perspective drawing as a design tool; paraline and perspective drawings on the computer as a means of enhancing freehand skills; model making skills. Coreq.- ARCH 110. Offered fall semester only.

ARCH 110 Architecture Design Studio I (Cr3) (2:2)
First studio in four-semester foundation design studio sequence; fundamental principles of design, design vocabulary and design process; studio projects including two and three dimensional abstract exercises architectonic in nature; organizing systems in accompaniment with the study of historical precedents; emphasis on graphic communication and model making. Coreq. - ARCH 101. Offered fall semester only.

ARCH 121 Architectural Graphics II (Cr3) (2:2)
Continued development of the graphic language of architecture; hand skills with orthographic drawings extended to the formal language of architecture and developed into formal plans, elevations, sections and details; linework, notation, dimensioning, material indication and sheet layout; different types of drawings used during the design process; computer and hand skills as tools in the exploration of diagrammatic and other analytical drawings; model making. Prereq. - ARCH 101 and 110, both with a C or better; Coreq. - ARCH 150. Offered spring semester only.

ARCH 150 Architecture Design Studio II (Digital) (Cr3) (2:2)
Digital studio making transition from abstract principles to architectural projects adding issues of function, space, surface and structure; continued emphasis on understanding and developing design process and historical precedent; basic programmatic research; use of the program Archicad in the digital environment for fundamental techniques required to visualize three-dimensional spaces and objects as an integral part of the design process; development of ability to create computer generated design process drawings/models including perspective, plans, sections, isometrics and axonometrics as a means to solving design problems. Formerly ARCH 205. Prereq.- ARCH 101 and 110, both with a C or better. Offered spring semester only.

ARCH 155 Architectural History II - 1870 to Present (Cr3) (3:0)
History and theory of the modern era; methods of historical inquiry and comparative analysis; emphasis on the modern movement, particularly recent movements in architecture and their impact on current thinking. Core: SIT (A.A.S. only). Offered spring semester only.

ARCH 200 Professional Internship (Cr3) (0:0:11)
Practical office experience for students who qualify for sophomore standing; work under the direction of an employer with a professional degree in

architecture; arrangements made through the architecture department. Prereq. - ARCH 121, 150, and 155, all with a C or better.

ARCH 204 Design & Analysis of Structural Form (Cr3) (2:2)
Fundamental concepts of statics, forms and forces for a spectrum of architectural structures; structural analysis incorporating both graphic representation and numeric investigation, with particular emphasis on the impactof structure on design; study of structures through full scale model building. Prereq. - MATH 145. Offered fall semester only.

ARCH 210 Architecture Design Studio III (Cr5) (2:6)
Continued development of design vocabulary and design process; further development of architectural projects considering program, site and context reinforced by historical precedent; use of materials and structure and their impact on design; emphasis on conceptualization and the importance of the building 'parti'; traditional model making; appropriate use of both traditional graphic representation as well as the computer as a design tool during the design process; written research papers on design problems and historical precedent as part of the exploration process. Prereq. - ARCH 121, 150, and 155, all with a C or better. Offered fall semester only.

ARCH 214 Architectural Materials & Methods of Construction I (Cr3) (3:0)
First course in two-term sequence of building technology; conceptual framework integrating construction into the design process; properties of materials used in construction, their appropriate use, and impact on design; methods of construction in wood, masonry, concrete and steel. Formerly ARCH 103. Prereq. -ARCH 121 with a C or better. Offered fall semester only.

ARCH 215 Advanced Digital Analysis (Cr3) (2:2)
Advanced computer design and analysis focused on complex three dimensional modeling, including animations and virtual reality 'walk throughs' using Archicad and other modeling software; building of 3D models as both a design tool and an analytical tool; 3D models to analyze structure, circulation, volume, enclosure and zoning in both historical and current projects as a precursor to modeling studio projects. Prereq. - ARCH 150 with a C or better. Offered fall semester only.

ARCH 250 Architecture Design Studio IV (Cr5) (2:6)
Resolution of more complex architectural programs with the context of a community-wide environment; broad study of a local rural community, narrowing to a study of the main hub of activity, usually 'Main Street', narrowing further toan individual architectural problem important to the community; project selected as subject of the semester; site analysis and fundamental urban design issues; class publication illustrating class involvement and understanding of community design issues; studio with a physical presence in the community with student drawing and models available to citizen review, student interaction with members of the community. Prereq. - ARCH 210 with a C or better. Offered spring semester only.

ARCH 254 Architectural Materials & Methods of Construction II (Cr3) (3:0)
Second course in sequence; systems integration: foundation/wall, wall/window, floor/wall, wall/roof; integration of building assemblies including structural, mechanical and electrical and their impact on design and the design process; overview of codes, standards, safety, accessibility, documentation and specifications. Prereq. - ARCH 214 with a C or better. Offered spring semester only.

ARCH 265 Digital Production Drawing (Cr3) (2:2)
Study of architectural working drawings; introduction to digital media as a basis of creating a complete set of construction documents from a schematic design; the process of working drawing development; determining the required drawing necessary to express the schematic design to a constructed project; development of the required drawings focusing on standard drawing conventions and methods currently in practice. Prereq.- ARCH 101 with a C or better. Offered spring semester only. Additional course fee $64.00.

ARCH 291 Special Studies in Architecture (Cr1)
See Statement on Special Studies. Offered on demand.

ARCH 292 Special Studies in Architecture (Cr2)
See Statement on Special Studies. Offered on demand.

ARCH 293 Special Studies in Architecture (Cr3)
See Statement on Special Studies. Offered on demand.

ARCH 294 Special Studies in Architecture (Cr4)
See Statement on Special Studies. Offered on demand.

Applied Psychology (PSAP)

PSAP 250 Developmental Differences (Cr3) (3:0)
An exploration of the symptoms, strengths, daily life experiences, and developmental course of people with neurodevelopmental disorders. Students will explore a wide array of neurodevelopmental disorders and increase their knowledge and understanding of this diverse group of people. Restricted to Applied Psychology majors. Prereq. - PSYC258 and PSYC235 with B or better

PSAP 260 Counseling Individuals with Developmental Differences (Cr3) (3:0)
This course is an overview of basic counseling skills and knowledge that students need to become effective helpers to those with developmental differences. Skills include identification with the values and ethics of the profession, cultivating the habit of self-reflection, and developing cultural competence. Students will explore the requirements and challenges of working with individuals with neurodevelopmental disorders, to consider if a counseling career is a good fit. Restricted to Applied Psychology majors. Pre- or coreq. - PSAP250

PSAP 280 Applied Psychology Experiential Learning (Cr3) (1:0:10)
Students apply their knowledge of human development, psychopathology, counseling skills, and counseling values and ethics in a clinical setting. They interact with clients and analyze assessment information to evaluate clients' strengths, needs and challenges. They develop an identification with their profession through the application of ethical guidelines and professional standards. Students create written assessments of their clients to document

clinical treatment. Requires 150 hours working in an approved clinical setting. Restricted to Applied Psychology majors. Prereq. - PSAP260 with B or better.

Art (ARTA)

ARTA 100 Art and Visual Thinking (Cr3) (3:0)
Prepares students to use art as a visual language to communicate feelings and knowledge, to use art as a process for understanding one's self and others, to understand the value of imagery in the community, and to interpret the work of artists in a historical, cultural and personal context. Also available through Online Learning. Core: AH.

ARTA 101 Art History (Cr3) (3:0)
This course covers major trends and influences in western and world art from prehistoric to the present; emphasis on style and form. Also available through Online Learning. Core: AH.

ARTA 107 Drawing I (Cr3) (1:5)
This course covers basic concepts, theories, media and techniques of drawing explored through still life, landscape, the figure, portraiture, and perspective studies. Emphasis will be on the development of observational drawing skills, composition, and an understanding of drawing as a primary form of visual communication and personal expression.

ARTA 110 Principles of 3-D Design (Cr3) (1:5)
This course introduces the theory and application of three-dimensional design with an emphasis on the elements of art and principles of organization as the foundation of successful visual problem solving and creativity. Projects cover a variety of media and techniques; technical, perceptual, and analytical skill development; and contemporary and historical art and design practices.

ARTA 111 Principles of 2-D Design and Color (Cr3) (1:5)
This course provides an introduction to the theory and application of two-dimensional design for the creation of pictorial space. The formal elements of art and principles of organization will be covered in depth with a special focus on the nature and properties of color. Students will be guided through a series of projects using a variety of dry, wet, digital and mixed media. Development of technical, perceptual, and analytical skills will be emphasized along with an understanding of historical and contemporary art and design practice.

ARTA 124 Drawing II (Cr3) (1:5)
This course builds on concepts, theories, media and techniques introduced in Drawing I; and continues exploration of still life, landscape, and perspective studies with additional focus on the figure and portraiture. Emphasis is on the continuing development of observational drawing skills, composition, and an understanding of drawing as a primary form of visual communication and personal expression. Prereq.- ARTA 107 and 111.

ARTA 130 Introduction to Web Site Design (Cr3) (2:2)
Introduction to Web Site Design explores online website design and basic programming with industry standard software and basic coding with HTML and Cascading Style Sheets. The course addresses best practices in current web design and web standards as well as methods of publishing web sites via FTP servers. Finally, students will discuss web design careers and freelance design opportunities. Prereq. - ARTA170. Also available through Online Learning.

ARTA 131 Introduction to 3-D Computer Animation (Cr3) (2:2)
Introduction to 3-D Computer Animation is an exploration of a variety of current computer animation software and state of the art digital technology. The course introduces students to best practices of computer animation and visual effects; model building, rendering, lighting, key-frame animation and character animation. Prereq. - ARTA170.

ARTA 132 Web Animation (Cr3) (2:2)
This course is designed to introduce students to the many different creative aspects of web animation, while building a strong technical foundation. Students will learn a foundation in the basic principles of animation as well as how to implement them in different types of web animation software. Students are encouraged to experiment with this broad application and find their own personal expression while learning how to apply it to everyday work environments. Prereq. - ARTA 130. Also available through Online Learning.

ARTA 133 Advanced 3-D Computer Animation (Cr3) (2:2)
This course is designed to build on the skills, knowledge and experience gained in the ARTA 131 Introduction to 3-D Computer Animation course. Emphasis will be placed on working with advanced 3-D computer animation techniques for film, new media, and video games. Prereq.- ARTA 131.

ARTA 136 Interactive Design (Cr3) (2:2)
This course presents a visual and creative approach to learning interactive design with the basic fundamentals object-oriented programming. Students will learn the fundamentals of programming within a visual context, including how to develop strong conceptual skills required for creating interactive applications. Interactive design and programming is intended for both creative and technical oriented individuals. Prereq. - ARTA 132.

ARTA 151 Black and White Photography (Cr3) (1:5)
Introduction to 35mm camera work, black and white film and print processing; basic techniques of exposure, lighting and laboratory work; emphasis on technical/creative/aesthetic aspects of photography. Students must furnish their own manually adjustable 35mm cameras, bxw film and paper, matboard, and miscellaneous supplies. Formerly ARTA 251. Additional course fees: $20.00.

ARTA 158 Painting I (Cr3) (1:5)
This course covers basic concepts, theories, and techniques of painting, through the exploration of still life, portraiture, photographs, and mixed media experimentation. Emphasis is on the development of observational painting skills, composition, color mixing, and an understanding of painting as a primary form of visual communication and personal expression. Prereq. - ARTA107 and ARTA111.

ARTA 161 Ceramics (Cr3) (2:4)
A basic introduction to the clay medium: earth, water, and fire. The techniques of hand building (pinch, coil, slab) wheel thrown forms, and clay/glaze technology will be covered. An awareness of traditional and contemporary approaches to ceramics will be emphasized. Additional course fees: $40.00.

ARTA 162 Sculpture (Cr3) (1:5)
Course provides a hands-on introduction to methods, techniques and aesthetics of sculpture. Students will be guided through a series of projects using a variety of traditional sculptural media such as wood, plaster, stone, metal, plastic, etc. Development of technical, perceptual, and analytical skills will be emphasized along with an understanding of historical and contemporary sculpture practices. Additional course fees: $30.00

ARTA 164 Printmaking (Cr3) (1:5)
This course is an introduction to the basic principles of printmaking and applies concepts of image making and editioning within the fine arts. Multiple techniques will be covered including collagraph, monoprint, linocut, drypoint, solarplate (relief, intaglio, protogravure), digital media, and non-adhesive book binding/folio creation. Foundation Design concepts, research methods and critiques will also be emphasized.

ARTA 170 Computer Graphics (Cr4) (2:4)
Introduction to computer graphics and basic design principles. Utilizing Adobe Photoshop and Illustrator software, students will learn the fundamentals of digital design, image editing/scanning and printing. Assignments, both in and outside of the classroom, will be contextually based, providing real world applications with each lesson. Also available through Online Learning.

ARTA 171 Desktop Publishing (Cr4) (2:4)
Desktop Publishing is an introductory course in the use of industry standard page layout software. Students will learn the basic concepts for print design utilizing text, images, and graphics.

ARTA 180 Digital Design and Typography I (Cr3) (1:5)
Designed to introduce students to the visual and conceptual issues of graphic design and typography. Assignments investigate typography as an element of design whose form and purpose is to convey information in a structured, legible and expressive manner. Students will work with a variety of software applications as they develop their understanding of letterform, graphic design, Gestalt principles, and typographic organization. This course is a combination of lecture, demonstration and hands-on experience. Prereq.- ARTA 170.

ARTA 181 Digital Design and Typography II (Cr3) (1:5)
This course is designed to further develop and strengthen the skills and knowledge obtained in Digital Design & Typography I. Assignments are selected with the student's portfolio in mind and provide a variety of design challenges that will enhance students' competitive power for industry needs. Special emphasis will be placed on typographic detail, vocabulary, the design process, presentation, assemblage, and problem solving in a "real world" context. This course concludes with a hardcopy built portfolio. Prereq.- ARTA 180.

ARTA 190 Creative Designs (Cr3) (2:2)
This course is designed to improve conceptual abilities as applied to design. Students will create innovative design projects, emphasizing best practices of the creative design process and visual problem solving. Focus will be on the use of creative thinking techniques and research typically involved with producing a workable design using an innovative approach. Prereq.- ARTA 170.

ARTA 204 Drawing III (Cr3) (1:5)
This course advances concepts, theories, media and techniques developed in Drawing II, while continuing to explore classic themes. Emphasis is on continuing development of core drawing and design skills, technique and content research, more advanced work with the figure, and the creative challenges to work inventively with various drawing media. Prereq.- ARTA 124.

ARTA 208 Mobile Development (Cr4) (4:0)
This course is a comprehensive overview of developing native mobile apps for a variety of platforms. The focus is on group work from students majoring in a variety of disciplines with the goal of creating real-world products that exemplify the strengths of Communication Design, Web Development and Computer Science students. Prereq.-ARTA 240.

ARTA 210 Package Design (Cr3) (2:2)
This is an advanced course, exploring three-dimensional graphic design, processes, and techniques and branding theories. This course specifically defines and identifies visual communication for package structure and use of typography, color and images of three-dimensional prototypes. Students will be challenged with problem-solving techniques as applied in scale, material, form and function. Prereq.- ARTA 181.

ARTA 220 Media Art (Cr3) (2:2)
Combination of elements, approaches and techniques from fine art and applied art with cutting-edge digital technology; theory, methodology and professional practices covered through lectures, in-class hands-on practice and outside assignments; students approach projects conceptually, synthesizing original integrative solutions, which hopefully expand existing conventions; concepts include collaboration, iteration, metaphor, art as commodity, making vs. finding, perfection vs. perfectionism, and creativity and transcendence. Formerly ARTA 257. Prereq. - ARTA 170.

ARTA 226 Painting II (Cr3) (1:5)
Advanced problems in still life, the figure, self-portraiture, and abstraction building on foundation skills from Painting I; discussion and exploration of historical and contemporary approaches to painting to provide an informed basis for the development of personal style and direction. Formerly ARTA 126. Offered on demand. Prereq.- ARTA 111 and 158.

ARTA 230 New Media Theory and Practice (Cr3) (2:4)
This course will introduce critical concepts and hands-on skills in the current New Media field. Students will discuss topics related to the World Wide Web, mobile devices, DVDs, CD-ROMs, digital gaming, film and animation. Students will be equiped with the skills necessary for storyboarding, script writing, character development, theories and practices used in pre-production, and creating a film or animation. Prereq.- ARTA 170.

ARTA 231 New Media Production (Cr3) (1:5)
A continuation of ARTA 230, New Media Theory and Practice. Students will form groups, devise a production strategy and create an animated short based on a storyboard they have chosen. Students will learn production techniques, including lighting, sound, character building, quick shorts, creating scenes, editing and final production. Prereq.- ARTA 230.

ARTA 240 Advanced Web Site Design (Cr3) (2:2)
This advanced course focuses on interface design, web usability, standards-based design, optimization, and cutting-edge interactivity. Students will be exposed to theories of information architecture and content management, which aid in creating more functional, dynamic websites. Students will build on the skills presented in ARTA 130 Intro to Web Site Design to create functional, compliant, and aesthetically pleasing websites. Prereq.- ARTA 130.

ARTA 260 Individual Studio/Professional Practices (Cr4) (1:8)
This capstone course in the Fine Art Program offers an intensive studio experience for personal development and growth, culminating in a final, semester-end exhibition. The critique, a detailed analysis of artwork, will be the core process where aesthetic awareness and creative issues unfold. Students gain knowledge of professional practices by visiting galleries, museums, and artists' studios; speaking with artists, art dealers, art critics, and museum staff; and researching and writing about these experiences. Prereq. - Complete two (2) from among ARTA 164, 204, 226, 251, 282; Pre or Co-requisite: ARTA 220

ARTA 261 Advanced Ceramics (Cr3) (2:4)
This advanced exploration of the clay medium builds on the foundation skills acquired in ARTA 161 Ceramics. The relationship of technique to concept will be examined with an emphasis on craftsmanship. Wheel throwing, hand building, glazing, and firing techniques will be covered in greater depth. Coverage of contemporary issues in ceramics will help students develop a more informed aesthetic sensibility for the ceramic arts. Offered on demand. Prereq.- ARTA 161. Additional course fees: $60.00.

ARTA 282 Digital Photography (Cr3) (1:5)
This course is an introduction to digital photography using an Apple Macintosh computer and a variety of digital software and peripheral devices. The course presents an overview of best practices of digital photo capture (camera work), file organization, image manipulation, and storage and output devices. Prereq.- ARTA 170. Additional course fees: $50.00. Also available through Online Learning.

ARTA 285 Portfolio Workshop (Cr3) (2:2)
This course is the capstone course in Communication Design curriculum. This course will assist students in becoming professional members of the new digital media design market. Students will be revising, developing and assembling a portfolio in both hard-copy and digital formats. Guest speakers from various communication design fields will critique and evaluation students' portfolios during class time and at the final capstone portfolio-day presentation. Prereq.- ARTA 181.

ARTA 291 Special Studies in Art (Cr1)
See statement on Special Studies. Offered on demand.

ARTA 292 Special Studies in Art (Cr2)
See statement on Special Studies. Offered on demand.

ARTA 293 Special Studies in Art (Cr3)
See statement on Special Studies. Offered on demand.

Automotive Technology (AUTO)

AUTO 100 Automotive Fundamentals (Cr2) (2:0)
This course is an overview of automotive service practices and procedures, shop equipment, use of electronic service information, basic diagnosis and minor repairs, identification of components and component nomenclature.

AUTO 101 Automotive Engines (Cr4) (3:2)
Operational principles of basic engine systems and overhaul of the automotive engine; emphasis on proper use of precision measuring instruments and rebuilding tools, ability to locate and interpret engine specifications, engine diagnosis, and correct repair procedures. Additional course fees: $10.00. Offered fall semester only.

AUTO 103 Automotive Brakes (Cr3) (3:0)
Theory, principles of operation, and terminology of brake systems designs, emphasis on system inspection, accurate malfunction diagnosis, location and interpretation of specifications, proper use of special tools and machining equipment for disc/drum and standard/power systems, and correct repair procedures. Additional course fees: $10.00. Offered fall semester only.

AUTO 104 Automotive Suspension and Alignment (Cr3) (3:0)
Theory, principles of operation, and terminology of suspension system designs; emphasis on system inspection and accurate malfunction diagnosis, parts replacement procedures, location and interpretation of specifications, measuring and adjustment of alignment angles, wheel balancing, correct use of special tools and equipment, and correct repair procedures. Additional course fees: $10.00. Offered fall semester only.

AUTO 105 Automotive Electrical Systems (Cr3) (3:0)
Electricity and magnetism, basic DC circuits used in automotive electrical systems, use of meters, wiring diagrams, automotive wiring repair, location and interpretation of specifications, semiconductors, microprocessors and selected electronic devices used in automobiles. Additional course fees: $10.00. Offered fall semester only.

AUTO 106 Pennsylvania Safety Inspection Certification (Cr1) (1:0)
A 12 hour Pennsylvania Bureau of Motor Vehicles program designed to lead to certification by the state as an official inspection mechanic. Successful

completion of the course and meeting all state requirements will lead to becoming a state licensed safety inspection mechanic. Coreq.- AUTO/ASEP/AUTC 103 and 104. Offered fall semester only.

AUTO 110 Introduction to Hybrid Vehicles (Cr1) (1:0)
This is an introductory course to hybrid vehicles. Vehicle features, operating modes, and major hybrid components will be covered. Correct safety practices will be emphasized. Hybrid vehicle maintenance and general service procedures will be covered. Restricted to Auto students only. Prereq.- AUTO 105. Offered spring semester only.

AUTO 121 Automotive Air Conditioning & Heating Systems (Cr3) (3:0)
Operation, diagnosis, and servicing of auto air conditioning systems and components; emphasis on electronic climate control system troubleshooting and repair. Prereq - AUTO/ASEP/AUTC 105. Additional course fees: $10.00. Offered spring semester only.

AUTO 125 Advanced Automotive Electronic Systems (Cr3) (3:0)
Theory, operation, diagnosis and repair of starting, charging, ignition, computer control and electrical-electronic accessory systems to include electronic cruise control, body controls, driver information systems, and entertainment systems. Prereq. - AUTO 105. Additional course fees: $10.00. Offered spring semester only.

AUTO 145 Winter Practicum I (Cr2) (0:0:20 hrs/wk practicum)
Work experience at a sponsoring dealership, approved automotive service facility or the advanced technology lab on campus; tasks consistent with the course work of the preceding semester. Pre- or coreq. - AUTO 103, 104 and 105. Additional course fees: $10.00.

AUTO 175 Summer Practicum (Cr4) (0:0:320 practicum)
Work experience at a sponsoring dealership, approved automotive service facility or the advanced technology lab on campus; tasks consistent with the course work of the preceding semester. Pre- or coreq. - AUTO 101, 103, 104, 105, 121 and 125. Additional course fees: $10.00.

AUTO 203G Automotive Shop Management Practices (Cr3) (3:0)
Principles of operation for today's automotive repair center to include staffing, customer relations, personnel management, schedule of work and workers, parts inventory control procedures, job costs, supervisor roles in cost control, business law with special applications to the automotive repair field, marketing, and advertising the automotive repair services. Prereq.- AUTO 175 and ENGL101. Also available through Online Learning.

AUTO 211 Automotive Fuel and Emission Systems (Cr3) (2:2)
Theory, operation, diagnosis of malfunctions of electronically controlled automotive emission control systems; emphasis on location and interpretation of specifications, accurate diagnosis of malfunctions by proper use of test equipment, and correct repair procedures. Prereq.-AUTO 125 and 175. Additional course fees: $10.00. Offered fall semester only.

AUTO 221 Advanced Engine Performance (Cr3) (2:2)
Diagnosis, adjustment, and repair of the systems which affect engine performance; emphasis on synthesizing skills learned in electronic systems, fuel and emission control systems courses, accurate use of diagnostic equipment, proper tune-up procedures, use of specifications and interpretation of test results to enable the rapid isolation of malfunctions of a particular system or combination of systems in the automobile. Prereq. - AUTO 105, 125 and 175; Pre- or coreq.- AUTO 211. Additional course fees: $10.00. Offered fall semester only.

AUTO 224 Advanced Automotive Studies (Cr3) (3:0)
Topics related to recent developments or advanced systems currently in production on GM/DaimlerChrysler vehicles. Prereq. - AUTO 101, 103, 104, 105, 121, 125 and 175. Additional course fees: $10.00. Offered fall semester only.

AUTO 225 Mechanical Drive Train Systems (Cr4) (3:2)
Principles of operation, diagnosis, and repair of clutches, manual transmissions, drivelines, differentials, and front wheel drive units with emphasis on understanding the principles of torque multiplication and speed reduction through the use of gearing, location and interpretation of specifications, and correct troubleshooting and repair procedures. Prereq.- AUTO 125 and 175. Additional course fees: $10.00.

AUTO 226 Automatic Transmission Systems (Cr4) (3:2)
Theory of operation, diagnosis, maintenance, and overhaul procedures of the automatic transmission with a major emphasis on hydraulic systems and electronic controls used on automatic transmissions. Prereq.- AUTO 125 and 175. Additional course fees: $10.00.

AUTO 230 Hybrid Vehicles (Cr3) (3:0)
This course covers hybrid vehicles. Vehicle feature, operating modes, and major hybrid components will be covered. Correct safety practices will be emphasized. Hybrid vehicle maintenance and general service procedures will be covered. In addition diagnosis and repair of hybrid vehicles will be covered. Restricted to AUTO students. Prereq.- AUTO 105, 125.

AUTO 245 Winter Practicum II (Cr2) (0:0:20 hrs/wk practicum)
Work experience at a sponsoring dealership or approved automotive service facility; tasks consistent with the course work of the preceding semester. Prereq. - AUTO 125, 211, and AUTO/ASEP/AUTC 221. Additional course fees: $10.00. Offered spring semester only.

Automotive Technology Chrysler (AUTC)

AUTC 100 Automotive Fundamentals (Cr2) (2:0)
This course is an overview of automotive service practices and procedures, shop equipment, use of electronic service information, basic diagnosis and minor repairs, identification of components and component nomenclature.

AUTC 101 Chrysler Engines (Cr4) (3:2)
Operational principles for Chrysler engine systems and overhaul of Chrysler engines. Emphasis on proper use of precision measuring instruments and rebuilding tools, ability to locate and interpret engine specifications, engine diagnosis, and correct repair procedures. Additional course fees: $10.00. Offered fall semester only.

AUTC 103 Chrysler Brakes (Cr3) (3:0)
Theory, principles of operation and terminology of Chrysler brake systems designs, emphasis on system inspection, accurate malfunction diagnosis, location and interpretation of specifications, proper use of special tools and machining equipment for disc/drum and standard/power systems, and correct repair procedures. Additional course fees: $10.00. Offered fall semester only.

AUTC 104 Chrysler Suspension and Alignment (Cr3) (3:0)
Theory, principles of operation and terminology of Chrysler suspension system designs; emphasis on system inspection and accurate malfunction diagnosis, parts replacement procedures, location and interpretation of specifications, measuring and adjustment of alignment angles, wheel balancing, correct use of special tools and equipment, and correct repair procedures. Additional course fees: $10.00. Offered fall semester only.

AUTC 105 Chrysler Electrical Systems (Cr3) (3:0)
Electricity and magnetism , basic DC circuits used in Chrysler electrical systems, use of meters, wiring diagrams, automotive wiring repair, location and interpretation of specifications, semiconductors, microprocessors and selected electronic devices used in Chrysler automobiles. Additional course fees: $10.00. Offered fall semester only.

AUTC 121 Chrysler Air Conditioning and Heating Systems (Cr3) (3:0)
Operation, diagnosing, and servicing of Chrysler air conditioning systems and components; emphasis on electronic climate control system troubleshooting and repair. Prereq. - AUTO/ASEP/AUTC 105. Additional course fees: $10.00. Offered spring semester only.

AUTC 125 Advanced Chrysler Electronic Systems (Cr3) (3:0)
Theory, operation, diagnosis, and repair of Chrysler starting, charging, ignition, computer control and electrical-electronic accessory systems to include electronic cruise control, body controls, driver information systems and entertainment systems. Prereq.- AUTC 105. Additional course fees: $10.00. Offered spring semester only.

AUTC 211 Chrysler Fuel and Emission Systems (Cr3) (3:0)
Theory, operation, and diagnosis of malfunctions of electronically controlled Chrysler emission control systems; emphasis on location and interpretation of specifications, accurate diagnosis of malfunctions by proper use of test equipment, and correct repair procedures. Prereq.- AUTC 125 and AUTO 175. Additional course fees: $10.00. Offered fall semester only.

AUTC 221 Advanced Chrysler Engine Performance (Cr3) (2:2)
Diagnosis, adjustment, and repair of the systems which affect automotive performance; emphasis on synthesizing skills learned in electronic system, fuel and emission control systems courses, accurate use of diagnostic equipment, proper tune-up procedures, use of specification and interpretation of test results to enable the rapid isolation of malfunctions of a particular system or combination of systems in DaimlerChrysler automobiles. Prereq. - AUTO 105, 125,and 175; Pre- or coreq.- AUTO 221. Additional course fees: $10.00. Offered fall semester only.

AUTC 224 Advanced Chrysler Automotive Studies (Cr3) (3:0)
Topics related to recent developments or advanced systems currently in production on DaimlerChrysler vehicles. Prereq. - AUTO 101, 103, 104, 105, 121, 125 and 175. Additional course fees: $10.00. Offered fall semester only.

AUTC 225 Chrysler Mechanical Drive Train Systems (Cr4) (3:2)
Principles of operation, diagnosis, and repair of clutches, manual transmissions and transaxles, drive lines, differentials, and front wheel drive lines, differentials, and front wheel drive units used in DaimlerChrysler products; emphasis on understanding the principles of torque multiplication and speed reduction through the use of gearing, location, and interpretation of specifications, and correct troubleshooting and repair procedures. Prereq.- AUTO 125 and 175. Additional course fees: $10.00. Offered spring semester only.

AUTC 226 Chrysler Automatic Transmission Systems (Cr4) (3:2)
Theory of operation, diagnosis, maintenance, and overhaul procedures of automatic transmissions and transaxles used in DaimlerChrysler products; major emphasis on the hydraulic system and electronic controls used. Prereq.- AUTO 125 and 175. Additional course fees: $10.00. Offered spring semester only.

Automotive Technology GM ASEP (ASEP)

ASEP 100 Automotive Fundamentals (Cr2) (2:0)
This course is an overview of automotive service practices and procedures, shop equipment, use of electronic service information, basic diagnosis and minor repairs, identification of components and component nomenclature.

ASEP 101 GM Engines (Cr4) (3:2)
Operational principles for General Motors engine systems and overhaul of GM engines. Emphasis on proper use of precision measuring instruments and rebuilding tools, ability to locate and interpret engine specifications, engine diagnosis, and correct repair procedures. Additional course fees: $10.00. Offered fall semester only.

ASEP 103 GM Brakes (Cr3) (3:0)
Theory, principles of operation and terminology of General Motors brake systems designs, emphasis on system inspection, accurate malfunction diagnosis, location and interpretation of specifications, proper use of special tools and machining equipment for disc/drum and standard/power systems, and correct repair procedures. Additional course fees: $10.00. Offered fall semester only.

ASEP 104 GM Suspension and Alignment (Cr3) (3:0)
Theory, principles of operation and terminology of General Motors suspension system designs; emphasis on system inspection and accurate malfunction diagnosis, parts replacement procedures, location and interpretation of specifications, measuring and adjustment of alignment angles, wheel balancing, correct use of special tools and equipment, and correct repair procedures. Additional course fees: $10.00. Offered fall semester only.

ASEP 105 GM Electrical Systems (Cr3) (3:0)
Electricity and magnetism, basic DC circuits used in General Motors electrical systems, use of meters, wiring diagrams, automotive wiring repair, location and interpretation of specifications, semiconductors, microprocessors and selected electronic devices used in GM automobiles. Additional course fees: $10.00. Offered fall semester only.

ASEP 121 GM Air Conditioning & Heating Systems (Cr3) (3:0)
Operation, diagnosing, and servicing of General Motors air conditioning systems and components; emphasis on electronic climate control system troubleshooting and repair. Prereq. - AUTO/ASEP/AUTC 105. Additional course fees: $10.00. Offered spring semester only.

ASEP 125 Advanced GM Electronic Systems (Cr3) (3:0)
Theory, operation, diagnosis, and repair of General Motors starting, charging, ignition, computer control and electrical-electronic accessory systems to include electronic cruise control, body controls, driver information systems and entertainment systems. Prereq.- ASEP 105. Additional course fees: $10.00. Offered spring semester only.

ASEP 211 GM Fuel and Emission Systems (Cr3) (3:0)
Theory, operation, and diagnosis of malfunctions of electronically controlled General Motors emission control systems; emphasis on location and interpretation of specifications, accurate diagnosis of malfunctions by proper use of test equipment, and correct repair procedures. Prereq.- ASEP 125 and 175. Additional course fees: $10.00. Offered fall semester only.

ASEP 221 Advanced GM Engine Performance (Cr3) (2:2)
Diagnosis, adjustment, and repair of the systems which affect automotive performance; emphasis on synthesizing skills learned in electronic systems, fuel and emission control systems courses, accurate use of diagnostic equipment, proper tune-up procedures, use of specifications, and interpretation of test results to enable the rapid isolation of malfunctions of a particular system or combination of systems in GM automobiles. Prereq. - AUTO 105, 125 and 175. Pre-or coreq.- AUTO 211. Additional course fees: $10.00. Offered fall semester only.

ASEP 224 Advanced GM Automotive Studies (Cr3) (3:0)
Topics related to recent developments or advanced systems currently in production on GM vehicles. Prereq. - AUTO 101, 103, 104, 105, 121, 125 and 175. Additional course fees: $10.00. Offered fall semester only.

ASEP 225 GM Mechanical Drive Train Systems (Cr4) (3:2)
Principles of operation, diagnosis, and repair of clutches, manual transmissions and transaxles, drive lines, differentials, and front wheel drive units used in GM vehicles; emphasis on understanding the principles of torque multiplication and speed reduction through the use of gearing, location and interpretation of specifications, and correct troubleshooting and repair procedure. Prereq.- AUTO 125 and 175. Additional course fees: $10.00. Offered spring semester only.

ASEP 226 GM Automatic Transmission Systems (Cr4) (3:2)
Theory of operation, diagnosis, maintenance, and overhaul procedures of automatic transmissions and transaxles used in GM vehicles; major emphasis on hydraulic systems and electronic controls. Prereq.- AUTO 125 and 175. Additional course fees: $10.00. Offered spring semester only.

Biological Science (BIOS)

BIOS 104 Field Ecology (Cr4) (3:3)
Principles and techniques of ecology, class work stresses the theories behind field work, including structure of the physical and biotic components of the environment, conservation and preservation of wildlife and natural resources, biogeography, and classification, laboratory work centered around field experiences. Core: SCI.

BIOS 105 Contemporary Biology (Cr4) (3:2)
Designed for students not intending to major in science or the allied health fields; develops an awareness of the impact of biology on individuals and the environment and an understanding of the process of science, ecology, cells, genetics, selected human systems and evolution. Not more than one of BIOS 103, 105, 107, or 115 may count for credit towards the same degree. Course numbers ending with G are Writing Intensive (WI). Approved for the Honors Program. Also available through Online Learning. Core: SCI.

BIOS 107 Biology I (Cr4) (3:3)
This course is designed for science majors. Utilizing an evolutionary approach, the molecular basis of life will be studied, including such topics as the scientific method, chemistry, cell structure and function, cellular respiration, photosynthesis, mitosis, meiosis, genetics, and evolution. Not more than one of BIOS 103, 105, 107, or 115 may count for credit toward the same degree. Core: SCI.

BIOS 110 In Your Genes: Introduction to Modern Genetics (Cr4) (3:2)
Designed for students with an interest in modern genetics and the Human Genome Project, the course will develop an awareness of the impact of genetics on individuals, society, and the environment. The course's goal is to empower students to make informed decisions about ethical dilemmas in genetics that society will face in the next generation. Not intended for Biological Science or Allied Health majors. Core: SCI. Also available through Online Learning.

BIOS 115 Essentials of Biology (Cr4) (3:2)
This course is designed to build skills necessary for successful completion of advanced Biology courses, especially those in the Allied Health fields. Basic topics such as the metric system, atomic structure, and informational literacy will be covered, as well as more in depth biological subjects such as cell structure and function, and human genetics. This course will concentrate on the principles of biology related to the human body, but will not cover body systems, evolution or other topics of general interest. Not more than one of BIOS 103, 105, 107, or 115 may count for credit towards the same degree. Also available through Online Learning. Core: SCI.

BIOS 126 Environmental Science (Cr4) (3:3)
This course introduces the study of human impact on the environment and fundamental principles of ecology. The effects of pollution and human

disruption on the natural systems of the Earth will be studied, including water, air, and habitat destruction. Municipal solid waste issues, hazardous materials, alternative energy, and public policy (Federal, State, and Local levels) are also addressed. While there are some lab experiments carried out in the lab, laboratory work will center around field experience. Core: SCI, D. Also available through Online Learning.

BIOS 130 Basics of Human Anatomy & Physiology (Cr4) (3:2)
This course is designed to introduce students to the basics of the structure and function of the human body, of the inter-relation of the body systems and an understanding of homeostasis and its role in disease. This course is not intended for Allied Health majors and science majors. BIOS130 will count as SCI for Healthcare Office AAS students only. Only one of BIOS130 or BIOS160 or BIOS 204 can be used for credit in the same program. Restricted to Social Work Degree, Healthcare Office Coordinator Degree, and Medical Assistant Specialized Diploma majors only.

BIOS 150 Biology II (Cr4) (3:3)
Using an evolutionary framework, this course is a survey of the major taxonomic divisions and hierarchical organization of living systems on the planet. This course emphasizes eukaryotic organisms as it illustrates the similarities and differences in living forms through descriptions of their anatomy, physiology, ecology, reproduction, and development. Prereq.- BIOS 107. Core: SCI.

BIOS 160 Human Biology (Cr4) (3:3)
This course is designed to introduce students to the structure and function of the human body. The course begins with a review of biochemistry and cell structure. It then uses a systems approach to examine the parts and workings of the skeletal, muscular, nervous, digestive, endocrine, immune, cardiovascular, urinary and reproductive systems. Not more than one of BIOS 130, 160, or 204 may count for credit towards the same degree. Prereq. - high school biology or BIOS 105 or 107 or 115. Also available through Online Learning. Core: SCI.

BIOS 202 Microbiology for Allied Health (Cr4) (3:3)
This course will provide students with a foundation in the principles of morphology and physiology as they apply to microbes. The control of bacteria and other microorganisms will be discussed. This course will also look into the medical and economic importance of microorganisms and the role of pathogens. The laboratory portion of the course will focus on aseptic techniques, biochemical analysis off bacteria, the isolation, identification and enumeration of bacteria. This course is oriented toward students who are interested in the Allied Health field. This course is not intended for the biology major. BIOS 202 and 240 may not both be used for credit. Prereq.- BIOS 107, or 115, or 160, or 204, or VETC 101. Core: SCI.

BIOS 204 Human Anatomy and Physiology I (Cr4)(3:3)
Human Anatomy and Physiology is a thorough introduction to the structure and function of the human body. The course will include a survey of biochemistry, cell biology, histology, and the anatomy and physiology of the skeletal, muscular and nervous systems of the body. Not more than one of BIOS 130, 160 or 204 may count for credit toward the same degree. Prereq. - one year of high school biology or BIOS 107 or 115. Also available through Online Learning. Core: SCI.

BIOS 206 General Ecology (Cr4) (3:3)
The study of interrelationships between organisms and their environment. Topics include physical factors, adaptation of species, energy flow, nutrient cycling, biogeography, population dynamics, community structure and function, ecosystems analysis, ecological management applications, and the effects of human impact. Most lab work is conducted in the field. Prereq. - BIOS 107 and 150. Core: SCI.

BIOS 210 Environmental Biology (Cr4) (3:3)
Utilizing an ecosystem approach, this course provides a survey of the broad topics of ecology and the environmental sciences. This approach gives an integrative study of the interactions of living systems with the physical world. Particular emphasis will be placed on conservation at the local level (Pocono Mountain and Lehigh Valley) and how these issues relate to global concerns. Topics include aquatic as well as terrestrial ecosystems, pollution, and the distinction between conservation and preservation. Prereq.- BIOS107. Core: D.

BIOS 220 Field Zoology (Cr4) (3:3)
This course provides an overview of animal groups, emphasizing the vertebrate fauna of eastern Pennsylvania. The lecture portion of the course will cover concepts in animal morphological and behavioral adaptations, ecological relationships, evolutionary history, and conservation. Laboratory sessions will include a number of field trips to local sites of interest and will focus on species identification and animal survey methods. Prereq.- BIOS 150.

BIOS 230 Field Botany (Cr4) (3:3)
This course provides an overview of plant groups, emphasizing the terrestrial flora of eastern Pennsylvania. The lecture portion of the course will cover concepts in plant morph morphology and adaptations, ecological relationships, evolutionary history, and conservation. Laboratory sessions will include a number of field trips to local sites of interest and will focus on species identification and animal survey methods. Prereq.- BIOS 150.

BIOS 240 Microbiology (Cr4) (3:3)
This course will provide an introduction into the field of microbiology and will include discussions of prokaryotic, eukaryotic and acellular microbes. It is cover the characteristics, growth and metabolism of the microbes, as well as how microbes interact with other organisms and their environment. The lab component emphasizes aseptic techniques and methods of isolation, enumeration, staining, and biochemical characterization. It is intended to fulfill one of the biology elective requirements for biology majors during their sophomore semester. BIOS 202 and 240 may not both be used for credit. Prereq.- BIOS 150, CHEM 220.

BIOS 254 Human Anatomy and Physiology II (Cr4)(3:3)
This course is designed as a continuation of BIOS204 Human Anatomy and Physiology I and will cover the following systems: circulatory, lymphatic, endocrine, respiratory, digestive, urinary, and reproductive systems. Additional topics will include water, electrolyte and acid/base balance. Prereq. - BIOS 204. Also available through Online Learning.

BIOS 260 Genetics (Cr4) (3:3)
This course provides an introduction to the fundamentals of genetics. Topics of investigation include principles of Mendelian genetics, chromosomal theory, DNA structure, gene structure and expression, and population genetics. Lab investigations will utilize traditional as well as novel methods of

genetic analysis including the extraction and manipulation of DNA, gel electrophoresis, and polymerase chain reactions (PCR). Prereq.- BIOS 150, CHEM 220.

BIOS 281 Research in Biology (Cr1) (0:0)
An independent, experimental investigation of an area of biology selected by the students in consultation with and under the guidance of a biology faculty member; both library and laboratory research is required. Offered on demand with the approval of the science cluster. Prereq. - gpa of 2.5 or higher in at least 8 credits of biology and 4 credits of chemistry plus permission of the science cluster. Repeatable; may be taken 3 times with a limit of 9 credits total from any combination of BIOS 281/282/283.

BIOS 282 Research in Biology (Cr2) (0:0)
An independent, experimental investigation of an area of biology selected by the students in consultation with and under the guidance of a biology faculty member; both library and laboratory research is required. Offered on demand with the approval of the science cluster. Prereq. - gpa of 2.5 or higher in at least 8 credits of biology and 4 credits of chemistry plus permission of the science cluster. Repeatable; may be taken 3 times with a limit of 9 credits total from any combination of BIOS 281/282/283.

BIOS 283 Research in Biology (Cr3) (0:0)
An independent, experimental investigation of an area of biology selected by the students in consultation with and under the guidance of a biology faculty member; both library and laboratory research is required. Offered on demand with the approval of the science cluster. Prereq. - gpa of 2.5 or higher in at least 8 credits of biology and 4 credits of chemistry plus permission of the science cluster. Repeatable; may be taken 3 times with a limit of 9 credits total from any combination of BIOS 281/282/283.

BIOS 291 Special Studies in Biological Science (Cr1)
See Statement on Special Studies. Offered on demand.

BIOS 292 Special Studies in Biological Science (Cr2)
See Statement on Special Studies. Offered on demand.

BIOS 293 Special Studies in Biological Science (Cr3)
See Statement on Special Studies. Offered on demand.

BIOS 294 Special Studies in Biological Science (Cr4)
See Statement on Special Studies. Offered on demand.

Biotechnology (BIOT)

BIOT 101 Introduction to Good Manufacturing Practices (GMP) (Cr3) (3:0)
Course is designed to give an overview of biomanufacturing processes and the fundamentals of current Good Manufacturing Practice (GMP) in the field of sterile products and aseptic processing. A significant portion of the course will be geared towards understanding the latest US Food and Drug Administration's guidance documents and their applications. The course will also introduce the student to the European version of current GMP. Also available through Online Learning.

BIOT 120 Cleanroom Microbiology (Cr2) (1:2)
Course presents the basic information on cleanroom operations and management. Content will focus on basics of cleanroom design, daily operation and cleaning, understanding how a cleanroom can become contaminated, microbial monitoring, determining the source of contamination, identification of the contaminant, disinfection processes and prevention of recontamination. All techniques will be in accordance with procedures outlined by the International Standards Organization (ISO) and the International Association for Pharmaceutical Science and Technology (ISPST). Pre- or coreq.- BIOT 184 or permission of the instructor.

BIOT 184 Introduction to Biotechnology (Cr4) (3:2)
This course introduces the fundamental scientific concepts of biotechnology. The course covers historical development in the field and current applications in the areas of agriculture, medicine, forensics, environment, renewable energy, and chemical industry. The scientific basis of recombinant DNA technology, cell culture, stem cells, cloning, bio-terrorism, vaccines, bioethics, and other current developments are explained. The laboratory component of the course reinforces the scientific inquiry method. Pre- or coreq.- BIOS 107. Also available through Online Learning.

BIOT 185 Biotechnology Techniques (Cr4) (3:3)
Concepts and techniques necessary to work effectively in a biotechnology research or manufacturing laboratory. The importance of quality regulations and standards and the role of the technician in producing quality results will be emphasized. Students will gain theoretical and practical knowledge of laboratory instruments as well as basic laboratory techniques. Topics will include maintenance, record keeping, cleaning and calibration of laboratory equipment, preparation of common solutions and reagents, and writing and following procedures. Computer software will be used to generate spreadsheets and data analysis. Applications of bio-separations, cell culture, and fermentation will be introduced. Students will be trained in laboratory safety policies and good laboratory practices (GLP). Prereq. - BIOS 107 and CHEM 120.

BIOT 188 Biotechnology Internship (Cr1) (0:0:varies)
Work experience in the biotechnology/pharmaceutical industry or other related industries. Prereq. - BIOT 185.

BIOT 190 Industrial Biotechnology (Cr3) (3:0)
Students will be introduced to the bio-manufacturing process including a survey of proteins and vaccines which are currently produced by biotechnology and pharmaceutical companies. Regulatory environment of the biotechnology industry including standard operating procedures (SOP's) and current good manufacturing practices (cGMP) will be discussed. Cell culture scale-up, high throughput screening, use of robotic equipment will be introduced. Prereq. - BIOT 184 and 185.

BIOT 200 Aseptic Processing (Cr3) (2:3)
This course presents the basic information on contamination control and technical fundamentals that govern aseptic processing. Content emphasizes complexity of aseptic processing approaches, methods for proper aseptic surface contamination control, environmental monitoring and control presented in a context of regulatory compliance, Good Manufacturing Practice (GMP) and the current thinking of the US Food and Drug Administration (FDA). This course will not fulfill General Education science elective requirements.

BIOT 202 Biotechnology Seminar (Cr1) (1:0)
A survey (in seminar format) of current advances in biotechnology, bioinformatics, and the societal implications of biotechnological developments. Students will develop the presentation and discussion skills necessary for a biotechnology career by giving oral presentations on these topics and participating in instructor-facilitated group discussions. The importance of using current journals, scientific meetings, and the Internet to stay current in biotechnological topics will be emphasized. Prereq. - BIOT 190, BIOS 240 and CMTH 102.

BIOT 220 General Biotechnology (Cr4) (3:3)
A survey of principles of biotechnological applications of molecular and cell biology. Topics include transcription, translation, cell cycle regulation, protein expression, prokaryotic and eukaryotic gene expression, and antibodies. The laboratory will give the students exposure to recombinant DNA technology such as cloning techniques, restriction digests, plasmid design and purification, electrophoresis, protein expression and purification, and immunoassays. Prereq. - BIOT 190 and BIOS 240.

Business (BUSA)

BUSA 101 Introduction to Business (Cr3) (3:0)
Fundamental operations of business including management, human resource management, economics, marketing, operations and manufacturing, accounting, finance, and international relations. Also available through Online Learning.

BUSA 114 Manufacturing Cost Control (Cr3) (3:0)
Budget planning administration, standard costs, control of labor time, scrap, waste, inventory control, and maintenance costs. Offered fall semester only.

BUSA 115 Introduction to International Business (Cr3) (3:0)
This is an introduction course to the environment, concepts and differences involved in international business. Students will be able to identify and explain terms in the global environment, discuss international institutions and legislation, complete projects in the internationalization of functional business operations, and resolve case problems of emerging multinational corporation business practices. Also available through Online Learning.

BUSA 131 Principles of Marketing (Cr3) (3:0)
Principles of marketing and analysis of the four variables of the marketing mix: product, price, promotion, and distribution; marketing concepts as related to products and services and businesses and non-profit organizations. Also available through Online Learning.

BUSA 137 Principles of Selling (Cr3) (3:0)
Basic principles of professional selling; characteristics and opportunities of a sales career; knowledge and skills associated with the selling process; hands-on course emphasizing role-playing, and in-class presentations. Offered spring semester only.

BUSA 141 Entrepreneurship (Cr3) (3:0)
This course is designed to introduce the processes for creating a potentially successful business plan. Students will be able to recognize and evaluate the skills and commitment necessary to successfully operate an entrepreneurial venture. Students will apply a design and development process to an idea, produce a business plan for implementation, and identify a plan for acquiring resources needed to implement a business plan. Offered fall semester only.

BUSA 152 Business Law I (Cr3) (3:0)
Basic introduction to legal aspects of business including relevant terminology; essential elements of the American legal system, structure and operation of courts, torts and crimes in a business environment, common law of contracts, sales under the Uniform Commercial Code, and ethical considerations in business operations. Also available through Online Learning.

BUSA 201 Business Statistics (Cr4) (4:0)
This course focuses on the application of data analytic quantitative tools in business decisions. Major topics of study are statistical description, central tendency, dispersion, distributional shapes, sampling, confidence levels, probability, comparison tests, association tests, regression and time series. The objectives of the course are to develop the skills necessary to apply these concepts in conjunction with computer usage and make appropriate decisions regarding actual business problems. Prereq. - Appropriate competence as outlined in the Mathematics Placement Policy or MATH 022. Also available through Online Learning.

BUSA 202 Business Law II (Cr3) (3:0)
Basic legal concepts and procedures underlying the formation, operation, and dissolution of various forms of business organization; commercial paper, creditor/debtor rights, bailments, employment law, and relevant social legislation. Prereq. - BUSA 152. Also available through Online Learning.

BUSA 205 Management Fundamentals (Cr3) (3:0)
Principles and functions of management within organizations; planning and decision-making, organizing and staffing, leading and controlling with emphasis on the manager's role in goal achievement; ethical, political, legal, and international aspects of the environments in which business and other organizations operate; a management case study or simulation may be integrated into the course. Also available through Online Learning.

BUSA 211 Personal Finance (Cr3) (3:0)
This course provides knowledge that helps business and non-business students effectively manage their personal financial affairs. The course will provide an overview and coverage of the fundamentals of personal financial planning. Topics include personal financial statements, budgeting, tax planning, investing and savings, insurance, real estate, and retirement planning. Contemporary business problems and the changing economic and social environment and their effect on business and personal financial planning decisions are discussed. Also available through Online Learning.

BUSA 221G Business Communications (Cr3) (3:0)
Comprehensive overview of the communications processes with special emphasis on practical workplace applications; students assess and develop their listening, speaking, writing, and research skills as they prepare business letters, memos, reports, presentations, proposals, and employment packages; students plan and conduct business meetings and practice effective group problem-solving skills. Only one of BUSA 221 or OFAD 221 may be applied to a degree. Prereq. - ENGL 151 and CMTH 102. Also available through Online Learning.

BUSA 226 Human Resources Management (Cr3) (3:0)
The management of human resources in the legal and social environment of business; personnel planning, recruiting, selection, training, job evaluation, employee rights, compensation and benefits, and other aspects of personnel administration; labor-management relations and industrial safety for employees. Also available through Online Learning.

BUSA 235 Principles of Advertising and PR (Cr3) (3:0)
This course is an introduction to the principles of advertising and public relations (familiarity with Microsoft Word, PowerPoint and Internet recommended). This includes the analysis of advertising's role within marketing; how advertising works; the consumer audience; advertising research and planning; advertising media, ad design and copywriting, promotional tools; ad campaign evaluation and the role of public relations. Prereq.- BUSA 131. Offered fall semester only.

BUSA 252 Quality Management (Cr3) (3:0)
Principles and methods used in modern quality management; TQM tools and processes, statistical process control, employee problem-solving; quality as a strategic imperative. Offered fall semester only.

BUSA 260 International Business Practice Firm (Cr3) (2:2)
Using an international business model, the students work as team members in a simulated business firm in a state-of-the-art facility; students have the opportunity to perform various business functions (i.e. accounting, human resources, marketing/sales, purchasing/inventory control) as the firm transacts business with students in other simulated companies both in the U.S. and in other countries. Prereq. - ACCT101, BUSA131, BUSA205, BUSA221G, and CISC104.

BUSA 270 Marketing Simulation (Cr3) (3:0)
Students work as a team in a simulated advertising agency setting to develop a creative Integrated Marketing Communication Program. In creating the program, students apply all aspects of marketing from previous coursework (i.e. advertising/PR campaigns, brochure/sell sheet development, website design, sales promotion, personal selling, etc.). Students are involved in creative and critical thinking, decision making, environmental scanning and team activities. Prereq.- BUSA 131, 235, ARTA 130, and a minimum of 40 credits completed. Offered spring semester only.

BUSA 272 Finance/Applied Investment Management (Cr3) (3:0)
This course is an introduction to the nature of the finance function: risk and return concepts, working capital, dividend policies, mergers, security markets, acquisition and management of corporate capital, analysis of operations, forecasting capital requirements, raising capital and planning profits. Students will be able to manage a portfolio of debt and equity securities with the goal of providing an above average, risk-adjusted return. Prereq.- ACCT 151, BUSA 205, ECON 201 and business faculty recommendation.

Chemistry (CHEM)

CHEM 011 Preparatory Chemistry (Cr2) (2:0)
This course is designed to meet the needs of Allied Health, science, and engineering students to prepare them for CHEM135 (Chemistry of Life) or CHEM120 (General Chemistry I), required courses in their programs of study. The development of skills for solving quantitative (numerical) problems is emphasized. Topics include measurement, basic chemical concepts and theories, and nomenclature of simple ionic and covalent compounds.

CHEM 105 Chemistry in Contemporary Society (Cr4) (3:2)
This lecture and laboratory course is designed for non-science majors. Students will learn about the many discoveries in chemistry and how they have resulted in significant changes in our world and in the quality of our lives. Students will become better informed about our chemical world in areas such as nutrition, consumer products, medicine, agriculture, industrial products, air and water pollution, and energy. Core: SCI. Also available through Online Learning.

CHEM 120 General Chemistry I (Cr4) (3:3)
Chemistry I is a qualitative and quantitative study, both in the classroom and the laboratory, of matter and energy as they relate to the chemical properties of solids, liquids, gases, and solutions. Topics include stoichiometry, atomic/ molecular structure, bonding, states of matter, changes of state, and solutions. A quantitative study of each area is stressed; a strong background in chemistry and mathematics is required. This course is intended for science and engineering majors. Prereq. - Appropriate competence as outlined in the Mathematics Placement Policy or MATH 022; Chemistry (1 year of high school chemistry or CHEM 011); and Reading and writing competence as determined for ENGL 101. Core: SCI.

CHEM 121 Lab Safety Procedure (Cr2) (2:0)
Development of safety attitudes and safety training, toxicological concepts, hazards, risk analysis, chemical storage and disposal, safety regulations, and safety literature, examination of selected case studies and accidents.

CHEM 135 Chemistry of Life (Cr4) (3:2)
Principles of general, organic, and biochemistry with emphasis on applications in the health sciences. Also available through Online Learning. Core: SCI.

CHEM 201G Organic Chemistry I (Cr4) (3:3)
Functional groups, structures, stereo-chemistry, rates of reactions, reaction mechanisms, preparations and reactions of alkanes, alkenes, dienes, optical isomers, and aromatic compounds; modern organic lab techniques and applications to chemistry, biology, and chemical engineering. Pre- or coreq. - CHEM 220 and ENGL 101.

CHEM 220 General Chemistry II (Cr4) (3:3)
This lecture and laboratory course is a continuation of CHEM 120, General Chemistry I. Students will learn molecular shapes, chemical reactions, changes of state and properties of liquids, solutions, reaction kinetics, chemical equilibrium, thermodynamics and electrochemistry. Equilibrium topics include gaseous reactions, the ionization of weak acids and bases, hydrolysis of salts, and buffers. Prereq. - CHEM 120.

CHEM 225 Quantitative Analysis (Cr4) (3:3)
Evaluation of analytical data, aqueous and nonaqueous solution chemistry, titration curves, electrochemistry; theory and applications of: gravimetric, titrimetric, potentiometric, complexation, electroanalytical, spectrophotometric, and chromatographic methods of analysis. Prereq. - CHEM 220.

CHEM 228 Chemical Methods and Instrumentation (Cr3) (2:3)
Instrumentation including GC, HPLC, GC/MS, IR, NMR, ICP; introduction to EPA, TQM, and ISO-9000; regulatory compliances; team-oriented problem solving/process improvement methods.
Prereq. - CHEM 220.

CHEM 251 Organic Chemistry II (Cr4) (3:3)
Continuation of CHEM 201, including preparation and reactions of alcohols, thiols, disulfides, ethers, aldehydes, ketones, carboxylic acids, amides, esters, amines, amino acids, and proteins; modern organic lab techniques, and an optional student project in lab. Prereq. - CHEM 201.

CHEM260 Biochemistry (Cr3) (3:0)
In this course, emphasis will be placed on the chemistry of biomolecules and their utilization in intermediary metabolism. The principles of bioenergetics and the integration of metabolic control are developed. This course is lecture-only and is intended for students majoring in chemistry, biology, or who intend on pursuing a career in medicine, dentistry, pharmacy or other health-related field. Pre- or co-req. - CHEM251

CHEM 261 Research in Chemistry (Cr1) (0:3)
This course provides students with an opportunity to do supervised undergraduate research of a topic of interest. Students will utilize the principles, laws, and theories of general chemistry to successfully analyze samples provided using selected instrumental methods. The student will need to be competent to follow a standard procedure, to operate the instrument in a safe manner, to collect suitable data, to evaluate the reliability of the data collected, and to report the results in an appropriate form as would be required of a competent laboratory technician. Repeatable; may be taken 2 times. Prereq. - CHEM 220 and permission of the instructor.

CHEM 291 Special Studies in Chemistry (Cr1)
See Statement on Special Studies. Offered on demand.

CHEM 292 Special Studies in Chemistry (Cr2)
See Statement on Special Studies. Offered on demand.

CHEM 293 Special Studies in Chemistry (Cr3)
See Statement on Special Studies. Offered on demand.

CHEM 294 Special Studies in Chemistry (Cr4)
See Statement on Special Studies. Offered on demand.

College Success (COLS)

COLS 101 College Success (Cr1) (1:0)
This course is designed to help new students navigate the community college system. Through the exploration and awareness of academic skills, goal setting, college policies and procedures and self-exploration; students will create an individualized success plan that will provide a clear pathway to succeed in college. All new students who have never attended college are required to enroll in this course. Also available through Online Learning.

COLS120 Career Planning I (Cr1) (1:0)
Students will explore their interests, abilities, values and personality through personal narrative, testing, and career research to formulate a career direction. Pre- or co-req. Reading competency as determined for ENGL101.

COLS 150 Skills for Academic Success (Cr3) (3:0)
This course will provide students with the skills essential to succeeding in the college setting. Focus will be on understanding the role of a college student and the application of academic success strategies. The course will build a foundational level of information literacy and critical thinking skills.

Communications/Theatre (CMTH)

CMTH 102 Speech Communication (Cr3) (3:0)
Basic principles of communication theory and practice, including speech preparation and delivery, and the effective use of critical thinking and listening in relation to intrapersonal, interpersonal, intercultural, and group communication. Also available through Online Learning. Approved for the Honors Program.

CMTH 103 Mass Communication (Cr3) (3:0)
This course is an introduction to the cultural, social, legal, business, career and theoretical aspects of media. Provides an overview of mass media functions,structures, supports and influences. Restricted to Radio/TV students. Pre- or coreq. - ENGL 101.

CMTH104 Mass Media and Society (Cr3) (3:0)
This course is an introduction to various print (books, newspapers, and magazines), electric (radio, film, and television), new interactive (Internet and video games), and allied fields (advertising and public relations) of mass media. The various forms of media will be explored in terms of how they have been shaped by historic, economic, legal, and technological influences as well as media's effect on society. Pre- or coreq.- ENGL101.

CMTH 105 Public Speaking (Cr3) (3:0)
Students learn advanced speech writing strategies through preparation, research and delivery of speeches within a public setting. Emphasis is placed on audience analysis, managing anxiety, and use of visual resources and information technology. Prereq. - CMTH 102.

CMTH 110 Introduction to the Theatre (Cr3) (3:0)
Communicative nature of the theatre, historical perspective, modern trends, basic theories of playwriting, acting, directing, theatre spaces, and theatrical designs; reading plays, production preparation, attending NCC Theatre productions, and a field trip to see a professional production. Core: AH.

CMTH 111 Acting I (Cr3) (2:2)
Exploring the acting process, emphasis is on basic acting lessons, development of acting potential and discipline, gaining strength as a truthful actor on one's own and in rehearsal. Core: AH.

CMTH 115 Technical Theatre and Design (Cr3) (2:2)
This class is an introduction to the principles of design and technology for the stage and provides foundation for further study of the individual aspects of theatrical design. It includes theatre production, research methods for stage design, and technical skills. Topics stressed include principles and elements of design, collaborative problem solving processes, the importance of research and organization, visual and oral presentations and critical evaluations of productions. Core: AH.

CMTH 117 Stagecraft (Cr3) (2:2)
This class teaches the non-performance side of theatre with an emphasis on theatrical scenic construction, stage electrics and production skills. It includes preparation for, and execution of, major college productions and college events as well as working with the production staff. Restricted to Theatre and Radio/TV Majors. Core: AH.

CMTH 120 Radio Production (Cr3) (2:2)
A study of audio production techniques. Practice in operation of radio equipment and instruction in newswriting, commercial production, and performance. Pre- or coreq. - ENGL 101. Additional course fees: $50.00.

CMTH 122 Radio Workshop (Cr1) (0:2)
Radio production and on-air experience. Students produce programs that air on local radio stations. Opportunities in music, news, continuity and announcing. May be taken four (4) times for credit.

CMTH 126 The Communication Arts (Cr3) (3:0)
An aesthetic approach to understanding the media, emphasizing critical thinking and the ability to speak and write about technologically mediated arts. Restricted to Radio/TV, Theatre, Journalism, and Communication Studies students. Pre- or coreq. - ENGL 101. Core: AH,D.

CMTH 130 MIDI Sequencing and Synthesis (Cr3) (3:0)
This course covers topics in music computing including sound synthesis, MIDI sequencing, music notation and emerging technologies in music. Students will use computers to create, edit and record music. Previous music or keyboard skills are helpful but not required.

CMTH 170 Television Production (Cr3) (2:3)
Classroom and laboratory experience in the operation of a modern television studio including operation of television cameras, switcher, control room equipment, lighting, and audio for television plus experience scripting, producing, and directing 'live-on-tape' studio productions. Restricted to Radio/TV, Theatre and Journalism students. Prereq. - CMTH 120; Pre- or coreq. - ENGL 101. Additional course fees: $50.00.

CMTH 180 Multimedia Production (Cr3) (3:0)
This course provides theoretical and hand-on training in the various tools and techniques used in multimedia production for business, education, advertising and entertainment. Areas of instruction include digital photography, multimedia editing, and DVD creation. Additional course fees: $50.00.

CMTH 182 Multimedia Graphics & Animation (Cr3) (3:0)
This course provides theoretical and hands-on training in the various tools and techniques used in the creation of graphics, motion graphics and animation. For use in media production and multimedia presentations. Areas of instruction include Photoshop and After Effects. Additional course fees: $50.00.

CMTH 185 Multimedia Video (Cr3) (3:0)
This course provides theoretical and hands-on training in the use of video for multimedia production. Areas of instruction include video content creation and nonlinear editing.

CMTH 189 Stage Voice and Movement (Cr1) (1:1)
Study and practice in natural voice work, movement as destination, and physical commitment to character intentions. May be taken two times for credit. Prereq.- CMTH 111. Core: AH.

CMTH 190 Stage Production (Cr1) (1:1)
Study and practice in stage production work relating to design, construction, implementation and organization in the area of scenery, lighting, sound, properties, costumes and stage management. Course may be taken two times for credit. Pre- or coreq.- CMTH 115. Core: AH.

CMTH 206 Directing (Cr3) (2:2)
The process of directing a play: choosing and analyzing the script, working with actors, choosing and preparing the theatre space, overseeing the performance, and analyzing the results. Prereq.- CMTH 110 or 111. Core: AH.

CMTH 211G Plays: Classical to Contemporary (Cr3) (3:0)
This course introduces students to the analysis of plays as literary text that shapes both performance and an understanding of culture and the human experience. Plays from classical Greece to contemporary Theatre of Diversity will be covered along with the comments of playwrights, directors, actors

and critics. Students will analyze drama from psychological, historical, philosophical, structural and dramatic perspectives. Students may not receive credit for both CMTH 221G and ENGL 211G. Prereq.- ENGL 151. Core: AH,D, WI.

CMTH 212 Acting II (Cr3) (2:2)
Continuing to explore the acting process through scene study, audition preparation, comedy adaptations, psychological gesture work, and animal improvisations. Prereq. - CMTH 111. Core: AH.

CMTH 214 Interpersonal Communication (Cr3) (3:0)
Exploration of the theories, concepts, and processes of interpersonal communication. In this course students explore a variety of personal and professional interpersonal contexts and the processes of relational development. Prereq.- CMTH 102. Also available through Online Learning.

CMTH 215 Intercultural Communication (Cr3) (3:0)
Exploration of the theories, concepts, and themes that examine the influence of culture on the communication process; students explore a wide array of cultures and increase their cultural sensitivity and intercultural communication competence. This course has a service-learning option. Approved for the Honors Program. Prereq. - CMTH 102. Core: D. Also available through Online Learning.

CMTH 218 Theatre Portfolio (Cr1) (1:1)
Final exit showcase by graduates. Individually tailored to address readiness for transfer. Prereq. - Graduating Theatre major or permission of instructor. Core: AH.

CMTH 220 Introduction to Film (Cr3) (3:0)
This course introduces students to the technical and artistic elements of filmmaking. Students will gain an enhanced understanding of the early history of film, film genres and genre conventions, narrative structure, and cinematic techniques including: mise-en-scene, cinematography, editing, and sound. Presentation of weekly film and/or film clips. Prereq. - Reading and writing competency as determined for ENGL101. Core: AH. Also available through Online Learning. Approved for the Honors Program.

CMTH 221 History of Broadcasting (Cr3) (3:0)
This course is a study of the development of American broadcast media institutions, from radio's earliest beginnings to the complex media structure of today. Prereq. - ENGL101. Core: SIT. Also available through Online Learning.

CMTH 225G Scriptwriting (Cr3) (3:0)
Writing and analysis of television and radio continuity, ad campaigns and commercial, newswriting, documentary and non-fiction, scripting and the study of screenplays and TV drama. Prereq. - ENGL 101.

CMTH 230G Introduction to Communication Theory (Cr3) (3:0)
An introduction to the nature of theory, approaches to research, and types of oral communication theories. This course develops skills in researching and analyzing communication phenomena. Prereq. - CMTH 102, 214 and ENGL 101. Also available through Online Learning.

CMTH 231 Small Group Communication (Cr3) (3:0)
An introduction to the foundation, roles, and leadership associated with small groups. The course develops skills in participation and presentation within a small group setting. Prereq. - CMTH 102.

CMTH 240 Portable Video Techniques (Cr3) (3:0)
Designed to give students an in-depth understanding of portable video techniques; professional ENG and EFP shooting, lighting and audio techniques, plus editing techniques necessary to complete news and information segments. Prereq. - CMTH 170. Additional course fees: $50.00.

CMTH 245 Audio Recording and Mixdown (Cr3) (3:0)
This course provides theoretical and hands-on training in multi-track digital audio production and mixing techniques. Students will gain knowledge about session recording, signal routing, and work actively with a professional digital audio workstation in a recording studio environment. Restricted to Radio/TV students. Prereq. - CMTH 120. Additional course fees: $50.00.

CMTH 246 Advanced Audio Production (Cr3) (3:0)
The course provides advanced theoretical and hands-on training in multi-track digital audio production, location sound, audio for video, and advanced mixing techniques. Students will gain knowledge about advanced Pro Tools operation and expand upon the core concepts introduced in CMTH 245, Audio Recording and Mixdown. Restricted to Radio/TV students. Prereq. - CMTH 245. Additional course fees: $50.00

CMTH 251 Advanced Television Production (Cr3) (3:0)
Practical application of the various media production techniques previously learned culminating in the production of television shows suitable for broadcast on local stations. Emphasis is on the ability to oversee all phases of production and to function as an effective producer. Restricted to Radio/TV, Theatre and Journalism students. Prereq. - CMTH 170. Additional course fees: $50.00.

CMTH 252 Video Editing and Post Production (Cr3) (3:0)
Theoretical and hands-on training in editing and the various video techniques used in post production; non-linear editing and post production, computer graphics, compositing and animation. Prereq. - CMTH 240. Additional course fees: $50.00.

CMTH 275 Radio-TV Internship (Cr3) (1:6)
Work experience in a radio or television station, with media production companies or media divisions of business and industry. Restricted to Radio/TV, Theatre and Journalism students. Prereq. - CMTH 120, 170 and at least one course from the list of Media Electives.

CMTH 291 Special Studies in Speech (Cr1)
See Statement on Special Studies. Offered on demand.

CMTH 292 Special Studies in Speech (Cr2)
See Statement on Special Studies. Offered on demand.

CMTH 293 Special Studies in Speech (Cr3)
See Statement on Special Studies. Offered on demand.

Computer and Information Science (CISC)

CISC 100 Computer Technology I (Cr4) (4:0)
Introductory course for Computer Information Technology majors with the goal of establishing entry-level skills for three CIT options: Software, Networking, and Web. HTML, programming logic and design, and basic networking concepts will be covered as well as the exploration of CIT careers, and Excel and Word core level skills. Also available through Online Learning.

CISC 101 Introduction to Computers (Cr3) (3:0)
This course introduces computer concepts including hardware and software, an overview of application software, networking and the Internet, and current issues with respect to computers and society. Hands-on instruction in the productivity tools of word-processing, spreadsheets, database, and presentation software. Also available through Online Learning.

CISC 104 Microcomputer Applications (Cr4) (4:0)
Designed to give students experience with microcomputers and productivity software. Topics include spreadsheets, database management, word processing systems and presentation packages. Prereq. - CISC 100 or 101. Also available through Online Learning.

CISC 105 Desktop Operating Systems (Cr4)(4:0)
This course will introduce Desktop Operating System functions and utilities using operating systems such as Windows, Mac, Linux/Unix. Students will compare how the different operating systems handle user interface, file management, memory management, processor management, and network management.

CISC 115 Computer Science I (Cr4) (4:0)
Introduction to computing through the development of algorithms and programs which are implemented in a high level function/object oriented language; simple data types, control structures, documentation, basic file manipulation, problem solving techniques, modular design, structured data types, and object oriented implementations. Prereq. - Appropriate competence as outlined in the Mathematics Placement Policy, or MATH 026 or 028 either with a C or better.

CISC 125 Computer Science II (Cr4) (4:0)
Continuation of CISC 115 including stacks, backtracking, simulation, recursion, pointers, linear structures, searching, sorting, merging, elementary algorithm analysis, abstract base classes. Prereq. - CISC 115.

CISC 128 Client-side Scrpting (Cr4) (4:0)
Includes basic Web site design principles and a variety of languages including XML, HTML, Cascading Style Sheets, DHTML with extensive emphasis on the use of JavaScript. Prereq.- CISC 100 or ARTA 240.

CISC 136 PC Support and Troubleshooting (Cr4) (3:2)
Students will gain a complete, step-by-step approach for learning the fundamentals of supporting and troubleshooting desktop hardware and software. This course maps fully to CompTIA's latest A+ Exam objectives. (Formerly ELEC130)

CISC 137 Introduction to Networking Hardware (Cr2) (2:1)
Companion course to CISC136 to give a jump-start to students who already grasp the general concepts of PC repair and troubleshooting, but would like to focus attention in starting toward NET+ certification studies and an introduction to networking hardware components and the OSI model; networking equipment includes NICs, hubs, switches, routers and cabling, along with network topologies and the OSI model. (Formerly ELEC131) Pre or coreq. - CISC136

CISC 150 Object-Oriented Programming (Cr4) (4:0)
This course provides an introduction to object-oriented programming using Java. Basic programming structures such as input, output, decisions and loops, as well as concepts of object-oriented design are covered. Inheritance, polymorphism, data types such as arrays, strings, enumerated types, and graphical user interfaces are also included. Prereq.- CISC 115 or 128. Offered spring semester only.

CISC 158 Server-side Scripting (Cr4) (4:0)
Server-side scripting covers topics related to the creation of dynamic web pages using interactive scripting languages for web development. Prereq.- CISC 128, pre- or coreq - CISC 270. Offered fall semester only.

CISC 180 Introduction to Network Security (Cr4) (4:0)
This is an introductory course in computer and network security intended for networking or computer professionals and students who want to understand general concepts of network and information security. Topics will include the identification of vulnerabilities and mitigation of security risks, learning the basic principles of cryptography, keys and certificates, VPNs and wireless communication, configure group privileges, access control and authentication, implement security baselines, systems updates, intrusion detection, and create and build organizational and operational security programs that include documentation, risk assessment and user education. Prereq. - CISC 231.

CISC 186 Linux Administration (Cr3) (3:0)
This course is an overview of the Linux operating system. Students will gain hands-on experience with installing, configuring and maintaining Linux. This course aligns with the Linux Professional Institute (LPI) Linux Essentials Professionals Development Certificate.

CISC 201 Advanced Web Technologies (Cr4) (4:0)
In this capstone course in the Web Development program, students will use cutting-edge technologies focused on interactivity, design and web standards. Students will apply knowledge of database design, programming, client-side scripting, and server-side programming to create functional, dynamic and aesthetically pleasing websites. Prereq. - ARTA 130, CISC 158 and 270. Offered spring semester only.

CISC 205 Introduction to Server Operating Systems (Cr4) (4:0)
Students will explore installation and administration of Windows server and client, and LINUX server and client, and relationships to network security. Securing the NOS and client will also be discussed and the importance of system hardening, backups, user privileges, and disaster recovery. Prereq. - CISC231.

CISC 208 Mobile Development (Cr4) (4:0)
This course is a comprehensive overview of developing native mobile apps for a variety of platforms. The focus is on group work from students majoring in a variety of disciplines with the goal of creating real-world products that exemplify the strengths of Communication Design, Web Development and Computer Science students. Prereq.- CISC 158, and 270 or CISC 125. Offered spring semester only.

CISC 225 Computer Organization (Cr4) (4:0)
This course focuses on computer organization and programming at machine level using assembly language and machine code (low level coding). It will expand knowledge and experience causing the student to become more effective when programming a computer, and understanding how computers and other languages work. It covers the following topics: processor components and organization, addressing techniques, low level data representation, instruction and types and representation, information transfer, control flow, machine and assembly language programming. Prereq. - CISC 125. Offered spring semester only.

CISC 230 Data Structures and Algorithm Analysis (Cr4) (4:0)
Performance analysis and measurement of programs, formal induction proofs, asymptotic notation, algorithm analysis, hashing, binary trees, binary search trees, balanced search trees, graphs, biconnected components, spanning trees, shortest path algorithms. Prereq. - CISC 125. Offered fall semester only.

CISC 231 Data Communications and LANs (CCENT 1) (Cr4) (4:0)
This course provides the foundation for work in data communications and local area networks. It introduces the architecture, structure, functions, components, and models (OSI, TCP/IP) of the internet and computer networks. The principles of IP addressing, Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for major networking devices, and implement IP addressing schemes. This is the first semester of the Cisco Networking Academy Program. [CCENT1 Cisco Certified Entry Networking Technician I]. Offered fall semester only.

CISC 251 Network Administration and Maintenance (Cr3) (2:2)
The installation, maintenance and troubleshooting of the hardware for local area networks presented with an emphasis on the hands-on, practical experiences needed to service enterprise computing systems used in business and industry. Includes installation and maintenance of hardware, networks, wireless systems and user support. (Formerly ELEC251) Prereq. - CISC136

CISC 254 Server I (Cr3) (2:2)
This course is designed to introduce students to installing and configuring server operating systems. This is an intensive hands-on course where students will learn the skills and knowledge necessary to implement a core Windows Server Infrastructure into an existing enterprise environment. (Formerly ELEC254) Prereq. - CISC136

CISC 255 Server II (Cr3) (2:2)
In this course, students will continue their study of Windows Server administration started in CISC254. More advanced topics include network and file services, load balancing and failover, and disaster recovery. This is an intensive hands-on course where students will learn advanced server administration. (Formerly ELEC255) Prereq. - CISC251 and 254.

CISC 265 Windows Server Administration (Cr4) (3:2)
The primary focus of this course is server administration. Students will learn to configure and deploy common servers such as DNS, DHCP, VPNs, File Servers and Domain Controllers, primarily using Windows Server. In addition, secure account and server policies will be covered. This is an intensive hands-on course providing students with the skills needed to properly maintain servers in a networked environment. Prereq. - CISC254

CISC 267 Routing and Switching Essentials (CCENT2) (Cr4) (3:2)
This is an advanced course intended for networking professionals and students who already grasp the general concepts of data communications and networking, but would like a more detailed understanding of networking switching and routing. This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. [CCENT2 CISCO Certified Entry Networking Technician 2] Prereq. - CISC 231. Offered spring semester only.

CISC 270 Data Base Systems (Cr4) (4:0)
An introduction to the concepts of structures of data base systems. Definition, creation, and maintenance of data base systems; logical models of data organization such as hierarchical, network, and relational; data base integrity and security, effects of redundancy, specification and design of query functions, data entry and retrieval, query languages. Prereq. - CISC 104 or 128. Offered fall semester only.

CISC 271 Intermediate Routing & Switching, Interconnectivity and Troubleshooting (CNNA R&S) (Cr4) (3:2)
This is an advanced course intended for networking professionals and students who already grasp the general concepts of data communications and networking. This course describes the architecture, components, and operations of routers, and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VP in both IPv4 and IPv6 networks. Students will develop the knowledge and skills needed to implement DHCP and DNS operations as well WAN technologies. IPSec and virtual private network (VPN) operations in a complex network. There is a strong emphasis on network design, configuration and troubleshooting. [CCNA R&S CISCO Certified Network Associate Routing & Switching] Prereq.- CISC 267. Offered fall semester only.

CISC 272 Building Scalable Internetworks (CCNP-Route) (Cr3) (2:2)
This course introduces students to scaling IP addresses using VLSM, NAT and PAT. It focuses on advanced concepts and implementation if RIPv2, ISIS, multi-area OSPF, SLA management, IPV6 and BGP. Additional topics include router filtering, path control, Policy Based Routing (PBR) and route distribution. [CCNP-Route Cisco Certified Network Professional-Route] Prereq.- CISC 271. Offered spring semester only.

CISC 277 Computer Information Technology Practicum (Cr3) (0:0:130 practicum)
Work-based experience in an approved organization with focused exposure in networking, software or web development activities depending on degree specialty; written field experience report. Prereq. - 40 credits successfully completed for all students; CISC 231, ELEC 130, ELEC 254 and CISC 265 for students in the Networking Option; CISC 104, 140, and 145 for students in the Software Option; CISC 128, 150, and 158 for students in the Web Option.

CISC 278 Web Server Administration (Cr4) (4:0)
A comprehensive overview of the tools and techniques needed for installation, configuration and administration of different kinds of Web Servers including Microsoft Windows 2000 Server, Red Hat Linux, Internet Information Services (IIS), Apache Web Server, Microsoft SQL Server, etc. Prereq.- CISC 100 or 105. Offered fall semester only.

CISC 280 Law and Ethics of Computer Security (Cr3) (3:0)
Computer security is a highly technical arena, and one that is highly charged with ethical issues. This course will explore the ethical considerations of the computer security with emphasis on both the perpetrator and of the high standard expected of the computer security practitioner. Among other topics it will examine the topics of Professional Codes of Ethics, whistle-blowing, and 'ethical hacking.' Prereq. - CISC 180. Offered spring semester only.

CISC 282 Measure/Counter-Measure (Cr4) (4:0)
Emphasize the configuration of network servers, routers, firewalls, intrusion detection devices and other technology to create functional systems with a high degree of security and hence to discover the effect each device can have on overall system security. Team projects will lead to these systems which will be tested within the class via team to team or be class to class (intra-campus) security tests to reinforce the subject matter. Prereq. - CISC 180 and 231. Offered spring semester only.

CISC 284 Ethical Hacking (Cr3) (2:2)
This course emphasizes ethical hacking concepts and practices. Students will study common hacking software, intelligence gathering and techniques for exploiting system vulnerabilities. Hands-on labs will be employed to apply theory to practical scenarios. Students will also study exam objectives for the Certified Ethical Hacker (CEH) certification exam. Prereq. - CISC205

CISC 291 Special Studies in Computer Information Science (Cr1)
See Statement on Special Studies. Offered on demand.

CISC 292 Special Studies in Computer Information Science (Cr2)
See Statement on Special Studies. Offered on demand.

CISC 293 Special Studies in Computer Information Science (Cr3)
See Statement on Special Studies. Offered on demand.

CISC 294 Special Studies in Computer Information Science (Cr4)
See Statement on Special Studies. Offered on demand.

Computer Forensics Analyst (CFAN)

CFAN 210 Computer Forensics Analyst: HERO Internship I (Cr4) (0:0:20)
This course is one of a series of four internship sessions that will enable the student to gain practical experience assisting Homeland Security Investigations special agents with criminal cases and prosecutions with duties such as imaging and processing digital media; forensic analysis; assisting investigators to identify high-value targets and locate child victims; and preparing detailed reports. Students are required to complete three hundred internship hours, and students must secure their own internship position. Restricted to Computer Forensic Analyst: HERO students.

CFAN 220 Computer Forensics Analyst: HERO Internship II (Cr4) (0:0:20)
This course is the second of a series of four internship sessions that will enable the student to gain practical experience assisting Homeland Security Investigations special agents with criminal cases and prosecutions with duties such as: imaging and processing digital media, forensic analysis, assisting investigators to identify high-value targets and locate child victims, and preparing detailed reports. Students are required to complete three hundred internship hours, and students must secure their own internship position. Restricted to Computer Forensic Analyst: HERO students. Prereq. - CFAN210

CFAN 230 Computer Forensics Analyst: HERO Internship III (Cr4)(0:0:20)
This course is the third of a series of four internship sessions that will enable the student to gain practical experience assisting Homeland Security Investigations special agents with criminal cases and prosecutions with duties such as: imaging and processing digital media, forensic analysis, assisting investigators to identify high-value targets and locate child victims, and preparing detailed reports. Students are required to complete three hundred internship hours, and students must secure their own internship position. Restricted to Computer Forensic Analyst: HERO students. Prereq. - CFAN220

CFAN 240 Computer Forensics Analyst: HERO Internship IV (Cr4) (0:0:20)
This course is the last in a series of four internship sessions that will enable the student to gain practical experience assisting Homeland Security Investigations special agents with criminal cases and prosecutions with duties such as: imaging and processing digital media, forensic analysis, assisting investigators to identify high-value targets and locate child victims, and preparing detailed reports. Students are required to complete three hundred internship hours, and students must secure their own internship position. Restricted to Computer Forensic Analyst: HERO students. Prereq. - CFAN230

Construction Management (CMGT)

CMGT 100 Building Construction Trades Technical Skills Awareness (Cr3) (2:2)
This course provides a basic overview and awareness of the building construction trades for both commercial and residential buildings. Students will learn basic terminology associates with the building trades while acquiring hands-on technical skills experience. Awareness of the various building trades and the interrelationship of their respective completed operations will be discussed. Workplace safety will be stressed throughout the course with regulatory awareness and discussion.

CMGT 101 Introduction to Construction Codes (Cr3) (3:0)
This course will provide a study of the interpretation of technical building specifications, codes, and contract documents as they affect the selection, and application of materials and equipment. An emphasis will be placed on understanding local and state codes. Offered fall semester only.

CMGT 102 Construction Methods and Materials (Cr3) (3:0)
This course introduces the students to steel, concrete and composite material buildings found in construction projects. There is discussion of building materials along with various systems of construction. Awareness of building codes on material application and an overview of sustainable design as applied to construction material and methods is explored. Exposure to the latest construction techniques as it relates to environmental and health concerns if offered to provide material and method cost effectiveness to construction projects while accommodating regulatory and ethical safety requirements. Offered spring semester only.

CMGT 103 Construction Safety and Health (Cr3) (3:0)
This course provides the fundamental safety and health principles needed for an occupationally safe and healthy work environment while offering a practical application of theories and principles related to the construction industry. Students will gain awareness of OSHA's regulatory standards, safety and health strategies along with appropriate management techniques. Offered spring semester only.

CMGT 104 Construction Print Reading (Cr3) (3:0)
This course serves as an introduction to building materials and systems and their representation in construction drawings. Included is an introduction of building design and construction with a focus on terminology, industry standards, and the roles of the contractor, architect and other parties involved in construction projects. Emphasis is placed on interpretations of contract drawings, terminology, symbols and conventions used in residential, commercial and industrial drawings. Prereq.- CMGT 101, 102, 103, MATH 120, CISC 101. Offered fall semester only.

CMGT 105 Project Management and Administration (Cr3) (3:0)
This course will provide students with the knowledge and understanding of the management function in the construction industry. Topics include the project cycle, company and project organization, financial and budgeting considerations,documentation, monitoring, cost control, etc. Emphasis is placed on the responsibilities of the managers and their relationship to the owner, architect, general contractor and subcontractors including other agents involved in a construction project. Pre- or coreq.- CMGT 104. Offered fall semester only.

CMGT 106 Construction Planning and Scheduling (Cr3) (3:0)
This course explores the concepts and techniques for construction planning, scheduling and control systems necessary for effectively managing a construction project. Emphasis will be placed on the skills and knowledge necessary to plan and schedule a project. Coordination of manpower, materials, equipment, project funding, and cash flow are all concerns that must be monitored and controlled. Efficiency and use of the computers to facilitate the planning and scheduling process is integrated throughout the class. Pre- or coreq.- CMGT 104. Offered fall semester only.

CMGT 201 Construction Estimating (Cr3) (3:0)
This course emphasizes the fundamental of producing construction estimates and bids. Information discussed includes procedures to project material and labor costs. Interpreting construction drawings and specifications to estimate project expenses will be practiced throughout the course. Estimating skills and the integration of computers will be introduced and developed as a comprehensive approach to the estimating and bidding process. Prereq.- CMGT 106. Offered spring semester only.

CMGT 202 Construction Supervision and Leadership (Cr3) (3:0)
This course will provide the opportunity to discuss and evaluate essential leadership and supervisory skills. Understanding and applying leadership behaviors, as well as basic management skills will expand a construction manager's knowledge and abilities. Students will learn how management problems influence efficiency, productivity and employee morale. Pre- or coreq.- CMGT 201. Offered spring semester only.

CMGT 203 Construction Management Practicum (Cr6) (1:10)
This capstone course will provide the opportunity to integrate theory and practice with the reality of on-the-job experience. Based on the worksite hosting organization, the student intern will have opportunity to work in the areas of print reading, estimating, equipment management, project supervision, or other management related activities and tasks. All students are required to secure a sponsor for the practicum. Pre- or coreq.- CMGT 202. Offered spring semester only.

Counseling (COUN)

COUN 130 Career Planning II (Cr1) (1:0)
Students will identify a career focus and will learn to utilize effective job search strategies including networking, social media, resumes, cover letters and interviewing techniques.

COUN 291 Special Studies in Counseling (Cr1)
See Statement on Special Studies. Offered on demand.

COUN 292 Special Studies in Counseling (Cr2)
See Statement on Special Studies. Offered on demand.

COUN 293 Special Studies in Counseling (Cr3)
See Statement on Special Studies. Offered on demand.

Criminal Justice (CJST)

CJST 101 Introduction to Criminal Justice (Cr3) (3:0)
This course is an introduction to the field of criminal justice through the examination of historical data, statistical information, theories of crime causation, social control of behavior, development of laws, and evaluation of criminal justice system policies, procedures, and trends. Students learn the terminology of the field, and gain an awareness of the methods of inquiry utilized in the field. Restricted to Criminal Justice students. Also available through Online Learning. Pre.- or coreq. - ENGL 101.

CJST 111 American Legal System (Cr3) (3:0)
Analysis of the interrelationships between prosecutors, defense attorneys, the courts, police, grand and petit juries, and correctional systems; how the U.S. system of justice is intended to function and how it operates; social and political effects of legal system. Restricted to Criminal Justice majors and Computer Forensics Analyst: HERO majors. Prereq. - CJST 101. Also available through Online Learning. Core: CT

CJST 115 Criminal Law (Cr3) (3:0)
This course presents the principles and doctrines embodied in criminal law: substative crimes, justification, complicity and liability, causation, inchoate crimes. Restricted to Criminal Justice majors and Computer Forensics Analyst: HERO majors . Prereq. - CJST101. Also available through Online Learning. Core: CT.

CJST 121G Criminology (Cr3) (3:0)
The purpose of this course is to provide students with an understanding of the discipline of criminology through an examination of its theories, basic assumptions and definitions with focus on criminal behavior, and the nature, causes, extent and distribution of crime, and their policy implications. Prereq. - CJST101 and ENGL101. Also available through Online Learning. Core: CT, WI.

CJST 125 Corrections and Rehabilitation (Cr3) (3:0)
The focus of this course is to provide a survey and analysis of the American correctional system and its processes from both a historical and contemporary perspective. Restricted to Criminal Justice majors. Prereq. - CJST 101. Also available through Online Learning.

CJST 131 Juvenile Justice (Cr3) (3:0)
The American juvenile justice system, its components and functions are examined, focusing on juvenile crime, applicable law and procedures, and theories of delinquency. In addition to examining the evolution and transformation of the juvenile justice systems, students will gain an understanding of the current issues in juvenile justice in the United States and around the world. Restricted to Criminal Justice majors. Prereq. - CJST 101. Also available through Online Learning.

CJST 135 Law Enforcement and Investigative Techniques (Cr3) (3:0)
This course provides an intensive study of the law enforcement system at the Federal, State, and local levels. Special emphasis will be on police organization and management, police functions, job stress, liability, and sociological and psychological implications. Principles and methods of investigations will also be examined including collection and preservation of evidence, impartial gathering of evidence, interrogation techniques, and the handling of informants. Restricted to Criminal Justice majors and Computer Forensics Analyst: HERO majors . Prereq. - CJST101. Also available through Online Learning.

CJST 145 Criminal Justice Ethics (Cr3) (3:0)
The focus of this course is to provide students with an overview of prominent ethical issues facing professionals in criminology and criminal justice, with an emphasis on encouraging individual students to explore their own ethical and moral systems and how they make ethical/moral decisions. Restricted to Criminal Justice majors and Computer Forensics Analyst: HERO majors . Prereq. - CJST101. Also available through Online Learning.

CJST 250 Contemporary Issues in Criminal Justice (Cr3) (3:0)
This course will critically examine controversial issues relating to crime and criminal justice. Emphasis will be placed on topics surrounding crime and justice in America including but not limited to victims of crime, law enforcement, prosecution, the judicial system, punishment and corrections, and the juvenile justice system. Restricted to Criminal Justice majors. Formerly CJST 150. Prereq. - CJST 101 and pre- or coreq. - CJST125. Also available through Online Learning. Core: CT, D (for Criminal Justice majors only).

Culinary Arts (CULA)

CULA 102 Food Safety and Sanitation (Cr2) (2:0)
Causes and reduction of food borne illness, the HACCP system, proper sanitation methods, integrated pest management and government regulations. Restricted to Culinary Arts, Restaurant Management and Dining Room Operation students only.

CULA 103 Nutrition (Cr2) (2:0)
Fundamentals of nutrition, lifespan and special need nutrition, nutrition and health, marketing nutrition in food service. Restricted to Culinary students. Coreq. - CULA 102; Prereq. - eligibility for ENGL 101.

CULA 105 Product Identification and Stewarding (Cr3) (3:0)
A detailed examination of the products used in the foodservice industry along with the cost control, purchasing and handling of these products; recipe measurements and formulas and kitchen mathematics. Restricted to Culinary students. Prereq. - CULA 102 and 103.

CULA 110 Baking (Cr3) (0:6)
A hands-on student participation course dealing with all the elements of baking and pastry making; doughs and yeast products, chemically and physically leavened products, dessert sauces and icings, frozen desserts; storing and handling techniques used with baked products. Restricted to Culinary students. Prereq. - CULA 105.

CULA 115 Meat, Poultry and Fish Cutting (Cr3) (0:6)
Care and handling techniques and hands on cutting of commonly used meat, poultry and seafood products used in food service establishments; emphasis on boning and portioning of primal and sub-primal cuts of meat and poultry, and filleting of fishes. Restricted to Culinary students. Prereq. - CULA 110.

CULA 120 Skill Development I (Cr3) (0:6)
A chef's guide to the art of cooking beginning with the basic cutting, chopping, mincing and progressively building in complexity; concentration on techniques of cooking and cooking methods; lecture and hands-on class participation dealing with stocks, soups, sauces, roasting, broiling, grilling, sauteing, pan frying, deep frying, braising, stewing, boiling, poaching, vegetable cookery, starch cookery, basic entrees, and meal combination. Restricted to Culinary students. Prereq. - CULA 115.

CULA 130 Basic Entrees and Vegetables (Cr3) (0:6)
Combining skills learned up to this point; timing of complete meals from appetizer to dessert progressively working from simple menus to complex. Restricted to Culinary students. Prereq. - CULA 170.

CULA 145 Restaurant Operations I (Cr8) (0:16)
Students are put to the test in a practical manner filling each of eight functioning stations; with one week at each the students rotate through the stations preparing all the menu items for that station; during this course the conditions are kept at a slower pace and more time will be allowed for the preparation of food items. Restricted to Culinary students. Prereq. - CULA 130. Additional course fees: $62.00.

CULA 150 Restaurant Operations II (Cr15) (0:30)
Students rotate through the kitchen stations and are responsible for all the menu items for that station; the pace of this course will be higher; the menu items will be more demanding and more emphasis will be put on speed and accuracy; this is a true functioning restaurant operation and the students will learn how a restaurant operates in industry. Restricted to Culinary students. Prereq. - CULA 145. Additional course fees: $115.00.

CULA 170 Skill Development II (Cr4) (0:8)
A chef's guide to pantry, garde manger, charcuterie and egg cookery; basic applications of the fine art of specialty food handling including pates, galantines, ballotines and sausages; brines, cures and smoking; all phases of meat, poultry and fish smoking and curing; buffet style food presentation, food decoration, vegetable carving, platter presentation and edible and non-edible centerpieces; basic cold food preparation including salads, salad dressings, cold sauces, and egg handling and preparation. Restricted to Culinary students. Prereq. - CULA 120.

Diagnostic Medical Sonography (DMSG)

DMSG 101 Essentials of Patient Care (Cr2) (2:0)
Orientation to the hospital and sonography department; history of sonography, roles and responsibilities of the sonographer, medical ethics, HIPPA and patient confidentially, basic patient care, safety and handling, nursing procedures and medical terminology. Restricted to DMS students. Offered fall semester only.

DMSG 102 Introduction to Diagnostic Medical Sonography (Cr1)(0:3)
This introductory course in the field of diagnostic medical sonography discusses sonographic terminology and sonographic tissue characterization. Cross-sectional anatomy of the upper abdomen in the sagittal, transverse and coronal planes utilizes schematic images and sonographic correlation. Patient positioning, labeling of images, image orientation and basic scanning techniques are introduced. Restricted to DMS students. Offered fall semester only.

DMSG 103 Introduction to Acoustical Physics (Cr2) (2:0)
Review of reciprocal relations, variables, powers, exponential notation, conversion of units, proportionality, fractions and percentages, logarithms, simple trig and geometry, base 10 and binary. Introduction to waves, Simple Harmonic Motion, wave motion, interference, sound, Doppler, the Rat model of light, reflection and refraction, Snell's law. Restricted to DMS students. Pre- or coreq. - MATH 140. Additional course fees: $170.00. Offered fall semester only.

DMSG 104 Introduction to Clinical Education (Cr1)(0:0:8)
Students will be introduced to the clinical environment and will observe and assist with the performance of various sonographic imaging procedures that they have practiced in the sonography lab. The focus of this course is acquisition of basic clinical skills, professionalism, and ability to follow hospital procedures and policies. This course will encompass 120 hours of clinical education. Restricted to DMS students. Offered fall semester only.

DMSG 105 Acoustic Physics & Instrumentation I (Cr2) (2:0)
Basic acoustical physics, principles of ultrasound instruments, modes of operation, operator control options, frequency selection, and echogenic properties; emphasis on ultrasound transmission in soft tissues, attenuation of sound energy, parameters affecting sound transmission, and resolution of sound beams. Restricted to DMS students. Prereq. - MATH 140. Offered spring semester only.

DMSG 110 Abdominal Sonography-Anatomy, Physiology, Imaging & Critique I (Cr4) (3:3)
Human anatomy in the transverse, longitudinal, and coronal planes with emphasis on the organs in the abdomen and pelvic cavity; extensive study of the disease processes and physiological alterations; sonographic methods to visualize adult and pediatric abdomens; normal variants, congenital anomalies, physiology, and related laboratory tests; technical information including procedural and scanning techniques. Restricted to DMS students. Prereq. - BIOS 204; Pre- or coreq. - BIOS 254. Offered spring semester only.

DMSG 115 OB&GYN Sonography-Anatomy, Physiology, Imaging, & Critique I (Cr4) (3:3)
Obstetrical and gynecological anatomy; clinical applications and sonographic methods to visualize pelvic organs, the pregnant uterus, and related structures; comparison of normal sonographic patterns with identficaiton of pathology, physiology, differentials, and correlation with lab test and related organ development; technical information including procedural and scanning techniques. Restricted to DMS students. Prereq. - BIOS 204; Pre- or coreq. - BIOS 254. Offered spring semester only.

DMSG 124 Clinical Education I (Cr2)(0:0:16)
Application of sonographic scanning procedures in a hospital or outpatient setting under the supervision of an appropriately credentialed diagnostic medical sonographer; emphasis on liver, pancreas, gallbladder, superficial structures, pelvis, gravid and non-gravid uterus and related structures; production and interpretation of normal and pathological sonograms of each area; film critique a critical component. This course encompasses 240 clinical hours. Restricted to DMS students. Prereq. - DMSG104. Offered spring semester only.

DMSG 125 Sectional Anatomy for Medical Imagers (Cr1) (1:0)
Human anatomy in the transverse, longitudinal, and coronal planes with application to sonography and other imaging modalities in radiology. Restricted to Radiography and Sonography students. Runs with RADT 125. Prereq. - BIOS 204; Pre- or coreq. - BIOS 254. Offered spring semester only.

DMSG 155 Acoustic Physics & Instrumentation II (Cr3) (2:2)
Continuation of acoustical physics; interaction of ultrasound production and display, various transducer designs and construction, quality assurance/control, bioeffects, image artifacts, techniques for recording static and dynamic images, methods of color flow, Doppler principles, and hemodynamics. Restricted to DMS students. Prereq. - DMSG 105. Offered fall semester only.

DMSG 160 Abdominal Sonography-Anatomy, Physiology, Imaging, & Critique II (Cr4) (3:3)
Advanced study of human anatomy in the transverse, longitudinal, and coronal planes with emphasis on the organs in the abdomen and pelvic cavity; extensive study of the disease processes and physiological alterations; sonographic methods to visualize adult and pediatric abdomens; normal variants, congenital anomalies, physiology, and related laboratory tests; technical information including procedural and scanning techniques. Restricted to DMS students. Prereq.- DMSG 110. Offered fall semester only.

DMSG 163 Fundamentals of Fetal Scanning (Cr1)(0:3)
An introduction to contemporary fetal growth assessment by early sonographic dating and subsequent growth series examinations will be discussed. Scanning techniques related to amniotic fluid index, and the biophysical profile; sonographic methods to calculate the biparietal diameter, head circumference, abdominal circumference, and extremity measurements will be emphasized. Restricted to DMS students. Offered fall semester only.

DMSG 165 OB&GYN Sonography-Anatomy, Physiology, Imaging, & Critique II (Cr4) (3:3)
Advanced study of obstetrical and gynecological anatomy; clinical applications and sonographic methods to visualize pelvic organs, the pregnant uterus, and related structures; comparison of normal sonographic patterns with identification of pathology, physiology, differentials, and correlation with lab test and related organ development; technical information, including procedural and scanning techniques. Restricted to DMS students. Prereq.- DMSG 115. Offered spring semester only.

DMSG 174 Clinical Education II (Cr2)(0:0:16)
Continued application of sonographic scanning procedures in a hospital or outpatient setting under the supervision of an appropriately credentialed diagnostic medical sonographer with independent scanning when competency has been demonstrated; emphasis on liver, pancreas, GB, superficial parts, pelvic areas, pregnant uterus, and related structures; production and interpretation of normal and pathologic sonograms of each area; film critique a critical component. This course will encompass 240 hours of clinical education. Restricted to DMS students. Prereq. - DMSG124. Offered summer only.

DMSG 215G Small Parts and Special Topics (Cr2) (2:0)
Application and use of ultrasound in the imaging of superficial organs and structures such as the thyroid and parathyroid glands, breasts, extremities, and scrotum; histologic aspects of various pathological conditions correlated with acoustical properties and ultrasound characteristics. Recent applications, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Restricted to DMS students. Prereq.- ENGL 101. Offered spring semester only.

DMSG 224 Clinical Education III (Cr2)(0:0:16)
Continued application of sonographic scanning procedures in a hospital or outpatient setting under the supervision of an appropriately credentialed diagnostic medical sonographer; emphasis on identification of pathology, and sonography of abdominal, small parts, and obstetrical-gynecological structures; rotations in the practice of peripheral vascular exams and other specialties within the field may be arranged; film critique a critical component. Independent scanning may take place when competency has been demonstrated. This course will encompass 240 hours of clinical education. Restricted to DMS students. Prereq. - DMSG174. Offered fall semester only.

DMSG 234 Clinical Education IV (Cr3)(0:0:24)
Continued application of sonographic scanning procedures in a hospital or outpatient setting under the supervision of an appropriately credentialed diagnostic medical sonographer; emphasis on identification of pathology, and sonography of abdominal, small parts, and obstetrical-gynecological structures; rotations in the practice of peripheral vascular exams and other specialties within the field may be arranged; film critique a critical component. Independent scanning may take place when competency has been demonstrated. This course will encompass 360 hours of clinical education. Restricted to DMS students. Prereq. - DMSG224. Offered spring semester only.

DMSG 235 Introduction to Vascular Sonography (Cr2)(2:0)
This introductory course will expose the learner to the fundamental principles of diagnostic testing of the cerebrovascular and peripheral vascular systems. Topics that will be emphasized include extracranial cerebrovascular imaging, non-invasive peripheral arterial and venous testing. Identification of relevant normal anatomy, pathology, and hemodynamics are explored utilizing B-mode, color flow Doppler, and spectral Doppler waveform analysis. Restricted to DMS students. Offered spring semester only.

DMSG 244 Clinical Education V (Cr3)(0:0:24)
Final period of clinical study; student to demonstrate full competency and progress to full independence under the supervision of an appropriately credentialed diagnostic medical sonographer; emphasis on identification of pathology, and sonography of abdominal, small parts, and obstetrical-gynecological areas; rotations in the practice of peripheral vascular exams and other specialties within the field may be arranged; film critique a critical component. This course will encompass 360 hours of clinical education. Restricted to DMS students. Prereq. - DMSG234. Offered summer only.

Dental Hygiene (DENH)

DENH 103 Pre-clinical Preventive Oral Health Services (Cr3) (0:9)
Students begin to work toward achieving client assessment and instrumentation competencies. Restricted to Dental students. Coreq. - DENH 104; Pre- or coreq.- DENH 105 and 106. Additional course fees: $662.00.

DENH 104 Foundations of Preventive Oral Health Services (Cr4) (4:0)
Infection control procedures, client assessment skills, dental disease prevention, dental materials and instrumentation techniques. Restricted to Dental students. Coreq. - DENH 103; Pre- or coreq. - DENH 105 and 106.

DENH 105 Oral Histology (Cr1) (1:0)
Integration of embryological concepts with the development of the face, neck, oral structures and teeth; correlation of the histological development of the enamel, dentin, pulp, cementum and periodontal ligament with clinical dental considerations and case histories. Restricted to Dental students. Coreq. - DENH 106; Pre- or coreq.- BIOS 160.

DENH 106 Oral Anatomy (Cr2) (2:0)
The differences among the permanent and primary dentitions by comparison of crown and root morphology, eruption patterns and occlusion; detailed head and neck anatomy including osteology, muscles, nerve innervation, and blood supply; client cases to correlate theories with clinical dental hygiene therapy. Restricted to Dental students. Coreq.- DENH 105.

DENH 109 Oral Radiology Lab (Cr1) (0:3)
Application of the knowledge, skills and attitudes necessary to competently expose and process diagnostically acceptable radiographs and to identify radiographic landmarks and radiographic evidence of dental disease processes. Students must demonstrate competent radiographic techniques on mannequins prior to performing supervised client exposures. Restricted to Dental students. Formerly DENX 106. Prereq. - DENH 110. Additional course fees: $20.00.

DENH 110 Oral Radiology (Cr2) (2:0)
Theories and principles of exposing, processing, mounting, and interpreting dental radiographs; anatomical landmarks and radiographic abnormalities; emphasis on radiation safety principles for both client and operator. Formerly DENX 505, DENX 110. Restricted to Dental students. Pre- or coreq.- DENH 105 and 106. students

DENH 150 Clinical Preventive Oral Health Services I (Cr3) (0:9)
Assessment, diagnosis, planning, implementation and evaluation of dental hygiene therapies for the client with gingivitis and early periodontal disease; continued development of competency in client assessments and instrumentation. Restricted to Dental students. Prereq. - DENH 103, 104, 106 and CPR certification; Coreq.- DENH 109, 152, and 153. Additional course fees: $65.00.

DENH 152 Preventive Oral Health Services I (Cr2) (2:0)
Foundational knowledge and skills for instrument sharpening, preventing gingivitis and dental caries; non-surgical periodontal therapies; recognizing and managing medical emergencies in the dental office; ethical issues affecting the practice of dental hygiene and dentistry. Restricted to Dental students. Prereq. - DENH 103 and 104; and Coreq. - DENH 150 and 153.

DENH 153 Periodontology (Cr2) (2:0)
The role of periodontal pathogens in relation to systemic diseases and the initiation and progression of gingival and periodontal diseases as they relate to: clinical signs, radiographic signs, microbiologic activity, risk factors, host immune response and pathogenesis and inflammatory response; dental hygiene therapies for gingivitis and early periodontitis. Restricted to Dental students. Prereq. - DENH 103 and 104; Coreq. - DENH 150 and 152.

DENH 154 Oral Health Care for Medically Complex Clients and Clients with Special Needs (Cr1) (1:0)
Develop skills to competently assess, treatment plan and manage clients who present medically complex health histories and/or special needs. Restricted to Dental students. Prereq. - DENH 103 and 104; Coreq. - DENH 150, 152 and 155.

DENH 155 General and Oral Pathology (Cr2) (2:0)
General principles of pathology; the specific etiology and treatment of oral manifestations of local and systemic pathological conditions; emphasis on the histological, clinical, and radiographical appearance of pathological conditions of the oral cavity; application to client assessment during clinical dental hygiene. Restricted to Dental students. Prereq. - DENH 105 and 106.

DENH 205 Nutrition for the Dental Health Care Provider (Cr2) (2:0)
Application of principles of basic nutrition to everyday life with an emphasis on the relationship between nutrition and health and disease; emphasis on the role nutrition plans in oral health; student skills to enable them to recognize nutritionally related dental disease and to provide dietary counseling for the prevention of further progression of the disease. Formerly DENH 145. Restricted to Dental students. Prereq. - CHEM 135.

DENH 206 Local Anesthesia (Cr2) (1.6:0.4)
Study of the anatomical, pharmacological and emergency considerations associated with the administration of local anesthesia in dentistry. Lab experiences prepare dental hygiene students to administer effective and safe infiltration and conduction anesthesia. Restricted to Dental students. Prereq.- DENH 150, 152 and 212; Coreq. - DENH 210.

DENH 210 Clinical Preventive Oral Health Services II (Cr4) (0:12)
Continued development of competency in clinical dental hygience; emphasis on the assessment, diagnosis, planning, implementation and evaluation of dental hygiene therapies for the client with early-moderate chronic periodontal disease; introduction of new skills: impression taking, study models, ultrasonic scaling, tobacco cessation, tooth whitening and intraoral camera imaging. Restricted to Dental students. Prereq. - DENH 109, 150, 152, 153, 155 and 212; Coreq. - DENH 211. Additional Course fees: $277.00.

DENH 211 Preventive Oral Health Services II (Cr3) (2:3)
Foundational knowledge and skills for impression taking, study models, tooth whitening, intraoral camera imaging, ultrasonic scaling, tobacco cessation counseling; legal and progessional issues affecting the practice of dental hygiene and dentistry; reading the dental literature. Restricted to Dental students. Prereq. - DENH 152 and 153; Coreq. - DENH 210.

DENH 212 Pharmacology (Cr2) (2:0)
A study of properties, actions, reactions, and dosages of drugs. Special emphasis will be placed on drug therapy common to the practice of dental hygiene. Restricted to Dental students. Prereq. - DENH 150.

DENH 220 Community Dental Health I (Cr1) (1:0)
Fundamentals of dental public health and oral epidemiology; introduction to school-based programs, dental health education and teaching methodologies; geriatric dentistry; students are required to participate in community-based dentral health activities. Restricted to Dental students.

DENH 240 Community Dental Health II (Cr1) (1:0)
Biostatistics, dental epidemiology and the role of government and dental hygienists in community dental health; application of fundamentals of scientific research methodology and biostatistics to the assessment, planning, implementation and evaluation of a community based dental education program; students continue to participate in community based dental health programs as outlined in DENH 220. Restricted to Dental students. Prereq. - DENH 220.

DENH 250 Clinical Preventive Oral Health Services III (Cr4) (0:12)
Continued practice toward entry-level competency in clinical dental hygiene for a variety of clients; emphasis on providing comprehensive dental hygiene care for periodontally involved clients. Restricted to Dental students. Prereq. - DENH 205, 210, 211. Additional course fees: $30.00.

DENH 251 Preventive Oral Health Services III (Cr2) (2:0)
Assessment, diagnosis, planning, implementation and evaluation of therapies indicated for moderate to advanced periodontal disease; dental implants; amalgam finishing and polishing; ergonomics; lasers; discussion of professional issues and responsibilities of the dental hygienist. Restricted to Dental students. Prereq. - DENH 211 and Coreq; - DENH 250. Course numbers ending with G are Writing Intensive (WI).

DENH 291 Special Studies in Dental Hygiene (Cr1)
See statement on Special Studies. Offered on demand. Restricted to Dental students.

DENH 292 Special Studies in Dental Hygiene (Cr2)
See statement on Special Studies. Offered on demand. Restricted to Dental students.

DENH 293 Special Studies in Dental Hygiene (Cr3)
See statement on Special Studies. Offered on demand. Restricted to Dental

Dance (DANC)

DANC 101 Dance History (Cr3) (3:0)
This course introduces students to the innovators, dancers, and choreographers who shaped the development of dance. The exploration of dance as an expression of cultural values throughout history will be examined. The course also surveys the purposes, functions, and manifestations of dance forms. Core: AH.

DANC 110 Ballet I (Cr1) (0.5:2.5)
This course introduces the student to the study of classical ballet. The course includes active participation in barre work, cente work, and traveling ballet exercises and combinations. The course also introduces the history of the genre of ballet as an art form. A student may take this course three times for credit. To fulfill the Arts and Humanities requirement, students must have a total of 3 credits. Core: AH.

DANC 120 Modern Dance I (Cr1) (0.5:2.5)
This course introduces the student to the principles of modern dance techniques. The course will include active participation in center work, movement across the floor, and proper alignment. A student may take this course three times for credit. To fulfill the Arts and Humanities requirement, students must have a total of 3 credits. Core: AH.

DANC 130 Jazz I (Cr1) (0.5:2.5)
This course is designed to introduce the student to the principles of Jazz dance techniques. Instruction will include flexibility and other physiological benefits. The course will include active participation in center work, movement across the floor, and proper alignment. It will emphasize performance through both improvisation and structured choreography. Incorporated in this course is the study of Jazz dance history. A student may take this course three times for credit. To fulfill the Arts & Humanities requirement, students must have a total of 3 credits. Core: AH.

DANC 202 Improvisation (Cr2) (0.5: 2.5)
This course is designed to introduce students to the exploration of movement through structured movement exercises. Students will experience basic movement concepts, and build upon their personal creative expression. This course will build upon their ideas, aesthetics, proper body awareness and movement vocabulary. Student will emerge with a stronger sense of movement concepts, which will be the basis for the creation of choreography and to develop new movement.

DANC 210 Ballet II (Cr2) (0.5:2.5)
This course provides the student with continued development and practice of the theory and technical training introduced in Ballet I. The course includes active participation in barre work, centre work, and traveling ballet exercises and combinations. Also introduced are the fundamentals of ballet performance critique. A student may take this course two times for credit. To fulfill the Arts and Humanities requirement, students must have a total of 3 credits. Prereq.- DANC 110. Core: AH.

DANC 220 Modern Dance II (Cr2) (0.5:2.5)
This course provides the student with continued development and practice of the theory and technical training introduced in Modern Dance I. Longer movement combinations and more detailed spatial designs will be implemented. The course also introduces the fundamentals of modern dance performance critique. A student may take this course two times for credit. To fulfill the Arts and Humanities requirement, students must have a total of 3 credits. Prereq.- DANC 120. Core: AH.

DANC 230 Jazz II (Cr2) (0.5:2.5)
This course is designed to provide the student with continued development and practice of the theory and technical training introduced in Jazz I. Longer movement combinations and more detailed spatial designs will be implemented. Instruction will include flexibility and other physiological benefits as well as provide an opportunity for creative work. The course will also introduce the fundamentals of Jazz Dance performance critique. A student may take this course two times for credit. To fulfill the Arts & Humanities requirement, students must have a total of 3 credits. Prereq.- DANC 130 or approval of instructor. Core: AH.

Early Childhood Education (EARL)

EARL 102 Introduction to School Age Child Care (Cr3) (3:0)
Students use observation and assessment to learn about the development of children and youth; and to plan school-age programs, including effective interaction strategies and appropriate learning/recreation environments that support the development, ability and interest of each youth. Assignments require access to school-age child care programs. Also available through Online Learning.

EARL 103 Society and the School Age Child (Cr3) (3:0)
Students learn about the role of families, communities and culture in the development of children and youth. Dominant theories of children's social-emotional development, crises in children's lives, and developmentally appropriate responses will be introduced. Family communication and support, cultural competence, the importance of inclusive teaching practices and respect for diversity are central themes. Assignments require access to school-age child care programs. Also available through Online Learning.

EARL 104 School Age Child Care Professional (Cr3) (3:0)
Students learn to use the professions' Code of Ethics and Standards as a basis for developing a professional identity. Management and leadership skills required for working collaboratively to ensure a quality program, and advocacy skills for improving the condition of before and after schoool programs are included. Assignments require access to school-age child care programs. Also available through Online Learning.

EARL 106 Early Childhood Development and Learning (Cr3) (3:0)
Students learn child development theories and milestones from prenatal to age 9 in the context of cultural and developmental variations. They learn inclusive teaching skills and strategies for all children including English Language Learners (ELL). They will understand the value of developing respectful, reciprocal relationships with families and community partners is a foundational skill. Students will be introduced to Art is a Way of Learning (AWL) as a curriculum framework. The course requires five observational visits to a variety of educational settings: infant/toddler, Preschool/Head Start program, $1^{st}/2^{nd}$ grade, $3^{rd}/4^{th}$ grade, and special education classroom. Observation visits total ten hours (two hours each). Also available through Online Learning. Child Abuse Registry, Criminal Background Check, and FBI clearances are required.

EARL 107 Observation and Assessment in Early Childhood (Cr3) (3:0)
Students learn methods of observing, documenting, and assessing children's learning from 0 to age 9 in the context of cultural and developmental variations. They are introduced to learning standards and assessment tools for evaluating safe and healthy indoor and outdoor learning environments integrating Universal Design for Learning (UDL). Students learn how to use the Art as a Way of Learning (AWL) framework to observe and assess children's development and learning environments. The course requires five observational visits in one of the following settings: infant/toddler through grade 4. Observation visits total ten hours (two hours each). Also available through Online Learning. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Pre- or Coreq. - EARL106

EARL 126 Arts in Early Childhood (Cr3) (2:2)
Students learn about children's artistic development within the context of cultural, linguistic, and ability diversity. They learn that the arts are symbol systems for representing and constructing meaning. Students create and implement standards-based arts learning experiences and environments using evidence based practice emphasizing Universal Design for Learning (UDL). They assess children's artistic development and learn to build reciprocal partnerships with families, professionals, arts specialists and arts organizations to support each child's learning. Course requires 20 hrs. (2 hrs/wk) field experiences (lab) in programs serving children pre-k to grade 4. Early childhood programs must be a licensed family, group, center, Head Start, faith-based, pre-k or nursery school setting. Additional course fees: $13.00. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Video/DVD documentation of student teaching required (online students only). Prereq.- EARL 106 and EARL 107.

EARL 128 Infant-Toddler Development and Learning (Cr3) (2:2)
Students learn developmental theories and milestones of children aged 0 to 3 within the context of cultural, linguistic, and abilities diversity. They are introduced to learning standards and infant/toddler curricula including the framework of Art as a Way of Learning (AWL). Students evaluate healthy and safe indoor and outdoor learning environments integrating Universal Design for Learning (UDL). Course requires 20 hrs. (2 hrs/wk) field experiences (lab) in programs serving children 0 to 36 months of age. Early childhood programs must be a licensed family, group, center, Head Start, faith-based, pre-k or nursery school setting. Additional course fees: $13.00. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Video/DVD documentation of student teaching required (online students only). Prereq.- EARL 106 and EARL 107.

EARL 160 Child Care Health Advocate (Cr3) (3:0)
This course prepares the Child Care Practitioner to function in the role of a Child Care Health Advocate (CCHA), and will address 15 different health and safety modules as a resource for child care directors, teachers, assistant teachers, and child care practitioners. The CCHA that will be working in a

child care setting will learn to assess, identify, and prioritize health and safety needs of children and staff. The participant learns their role in participating in health and safety activities to ensure activities occur in their facility. This course will also link the CCHA in a child care setting with a registered nurse child care health consultant. Also available through Online Learning.

EARL 208 Math in Early Childhood (Cr3) (2:2)
Students learn theories and stages of cognitive development within the context of cultural, linguistic and ability diversity. They learn about children's use of math as a language to represent, construct, problem-solve and reason with the Art as a Way of Learning (AWL) framework. Students create and implement standards-based math learning experiences and environments using evidence based practice emphasizing Universal Design for Learning. Students assess children's learning and build reciprocal partnerships with families and professionals; they use community resources to support children's growth and development. Course requires 20 hours of (2 hrs/wk) field experiences (labs) in programs serving children Pre-K to Grade 4. Early childhood programs must be a license family, group, center, Head Start, faith-based, pre-k or nursery school setting. Additional course fees: $13.00. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Video/DVD documentation of student teaching required (online students). Prereq.- EARL 106 and EARL 107.

EARL 216 Language and Literacy in Early Childhood (Cr3) (2:2)
Students learn literacy standards and stages of children's language development within the context of cultural, linguistic and ability diversity. They learn about children's use of language for representing and constructing meaning within the Art as a Way of Learning (AWL). framework. Students create and implement standards-based literacy learning experiences and environments using evidence based practices emphasizing University Design for Learning. Students assess children's learning and build reciprocal partnerships with families and professionals; they use community resources to support children's language growth and development. Course requires 20 hours of (2 hrs/wk) field experiences (labs) in programs serving children Pre-K to Grade 4. Early childhood programs must be a licensed family, group, center, Head Start, faith-based, pre-k or nursery school setting. Additional course fees: $13.00. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Video/DVD documentation of student teaching required (online students). Prereq.- EARL 106 and EARL 107.

EARL 217 Child, Family and Communities (Cr3) (3:0)
Students learn the role of families, communities, and culture in the development of children from 0 to age 9 in the context of CLAD (Cultural, Language and Ability Diversity). They examine theories of family systems and children's social emotional development. Students study cultural competence and inclusive practices to build relationships with families and other professionals. They use evidence based practices to collaborate with and advocate for all children and families. Includes the development of professional competencies related to teaching English Language Learners (ELL). Also available through Online Learning. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Completed coursework in Observation and Assessment (EARL107) will support student success in this course. Prereq. - EARL 106.

EARL 218 Science in Early Childhood (Cr3) (2:2)
Students learn the development of children's scientific thinking within the context of cultural, linguistic, and ability diversity. They learn that science is the study of the physical and natural world through observation and experimentation within the Art as a Way of Learning (AWL) framework. Students create and implement standards-based science learning experiences and environments using evidence based practice emphasizing Universal Design for Learning (UDL). Students assess children's learning and build reciprocal partnerships with families and professionals; they use community resources to support children's scientific thinking. Course requires 20 hours of (2 hrs/wk) field experiences (labs) in programs serving children Pre-K to Grade 4. Early childhood programs must be a license family, group, center, Head Start, faith-based, pre-k or nursery school setting. Additional course fees: $13.00. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Video/DVD documentation of student teaching required (online students). Prereq.- EARL 106, EARL 107.

EARL 221 Cultural and Linguistic Diversity in Early Childhood (Cr3) (3:0)
Students learn and apply evidence-based practices to support children (birth through five) who are culturally and linguistically diverse. They learn multiple perspectives and responsive practices, including global contexts, to support the development and full participation of each child. Students apply evidence-based practices, including Universal Design for Learning (UDL), in designing environments and creating experiences for each child. Students explain and analyze the benefits of positive reciprocal partnerships with families and professionals in all early childhood settings. They identify resources that serve children who are culturally and linguistically diverse and their families. This course is designed for early childhood education professionals in the field who have previous early childhood coursework and/or work experience. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Some field site assignments are embedded in the course. Also available online. This course is not applicable to any associate degree, certificate, or diploma.

EARL 222 Supporting Young Learners of Diverse Abilities (Cr3) (3:0)
Students learn about and apply evidence-based practices to support each young child's diverse abilities (birth through five). They examine family centered approaches that encourage the development and full participation of each child by building a sequence of supports and services. Students understand evidence-based practices for referral, assessment, and development of individualized plans. Students explain and analyze how reciprocal partnerships with family members and professionals support the full potential of children with diverse abilities in home, program, and community settings. They identify community resources that can support children of diverse abilities and their families. This course is designed for early childhood education professionals in the field who have previous early childhood coursework and/or work experience. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Up to 10 hours of field site assignments are embedded in the course. Also available online. This course is not applicable to any associate degree, certificate, or diploma.

EARL 231 Organization and Administration of Early Childhood Programs (Cr3) (3:0)
Application of child development knowledge, state regulations and national standards to organization and administration of high quality early childhood programs; to collaborate with families, school districts and communities and to engage in strategic planning. Designed for current and future directors of child care/child development centers, Head Start programs and community-based pre-kindergarten and kindergarten programs. Prereq. - 15 credits in Early Childhood Education or departmental approval. Also available through Online Learning.

EARL 232 Leadership Seminar in Early Childhood Education (Cr3) (3:0)
Focus on program director's leadership role in creating environment that supports professionalism, ethics, advocacy, strategic planning, and leadership development for self, staff, and board members. Survey of current issues, trends, problems, and resources related to education and care of young children. Designed for current and future directors and owners of community child care/child development programs, Head Start programs, and pre-kindergarten programs. Prereq. - 15 credits in Early Childhood Education/Child Development, or department approval. Also available through Online Learning.

EARL 244 Early Childhood Profession (Cr3) (3:0)
Students use evidence based knowledge to learn about their role as professionals to become informed advocates for all children, their families, and for sound educational practices and policies. Historical perspectives of the early childhood profession and how they influence current trends and curriculum models are analyzed. NAEYC, CEC, and DEC Codes of Ethics are used to examine ethical dilemmas including those related to cultural, linguistic, and ability diversity. Professional competencies related to legal responsibilities, teaching models, and professional resources for Dual Language Learners (DLL) are explored. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Prereq. - EARL 106 and 217

EARL 263G Internship-Early Childhood (Cr3) (2:10)
Students apply, analyze, and synthesize their knowledge of children's development and learning within the context of cultural, linguistic, and ability diversity. They create and implement standards-based learning experiences and aesthetic environments that integrate all curricular areas within the Art as a Way of Learning (AWL) framework. Students use evidence based practices emphasizing Universal Design for Learning (UDL). Students assess children's learning and build reciprocal partnerships with families and professionals; they use community resources to support children's growth and development. This course requires 2 hour weekly seminar class for 15 weeks and 150 hours (10 hrs/wk) of field experiences (lab) in programs serving children Pre-K to Grade 4; hours must be spread over three mornings. Early childhood program must be a licensed family group, center, Head Start, faith-based, pre-k or nursery school setting. The course is designated as a writing intensive course. Students are required to do action research and develop a Program Assessment Portfolio. Additional course fees: $13.00. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning. Video/DVD documentation of student teaching required (online students). Prereq.- EARL 106,107,126,128, 208, 216, 217 all with a grade of C or better and ENGL 101C. Coreq.- EARL 218, EARL 244.

EARL 291 Special Studies in Early Childhood Education (Cr1)
See statement on Special Studies. Offered on demand.

EARL 292 Special Studies in Early Childhood Education (Cr2)
See statement on Special Studies. Offered on demand.

EARL 293 Special Studies in Early Childhood Education (Cr3)
See statement on Special Studies. Offered on demand.

EARL 294 Special Studies in Early Childhood Education (Cr4)
See statement on Special Studies. Offered on demand.

Economics (ECON)

ECON 201 Macroeconomics (Cr3) (3:0)
This course deals with introduction to the basic concepts of economics, demand and supply analysis in market economy. It covers the topics of business cycle, unemployment, inflation, GDP and its determinants. This course provides a general overview of fiscal and monetary policies of the United States. National and global current economic issues are also analyzed. Also available through Online Learning. Core: SSHB.

ECON 251G Microeconomics (Cr3) (3:0)
This course deals with basic concepts of demand, supply, and their applications. It is primarily concerned with consumer behavior, production and pricing policies of the firm under different models i.e. perfect competition, monopoly, monopolistic competition, and oligopoly. It analyzes the resources pricing policies, unions, and labor markets. The role of government in correcting market failures is also examined. Analysis of current national economic issues is part of the coursework. Prereq. - ENGL 101. Also available through Online Learning. Core: WI.

Education (EDUC)

EDUC 105 Pre-service Academic Assessment (PAPA) Preparation (Cr1) (0:2)
Course presents a broad-based review of basic concepts and knowledge in reading, writing, and mathematics. Helps pre-service teachers to prepare to successfully complete the PA Educator Certification Tests (PECT) for Pre-service Academic Assessment (PAPA). Prereq. - EDUC 115 or EARL 106. Also available through Online Learning.

EDUC 115 Education for All Students (Cr3) (3:0)
Broad-based overview of professional education: including philosophy, history, organization, ethics, and current issues of education. The course focuses on the effective teaching of all students with an introduction to important theorists, child development, and diversity. The unique characteristics and needs of English Language Learners will be presented. Student will create a portfolio and complete 10 hours of field experiences. Prereq. - Reading and Writing competency as determined for ENGL 101.

EDUC 260G Adolescent Development & Cognition (3 Cr) (3:0)
The course emphasizes the adolescent as a student and learner in today's inclusive classroom. This course provides an overview of the major concepts, principles, theories, and research related to adolescent cognitive, social, sexual, emotional, and moral development. Strategies for teaching English Language Learners (ELL) comprise 15 hours of course content. Students complete 10 hours of field experience in the form of tutoring as part of this course. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Prereq.- ENGL 101 and EDUC 115.

EDUC 291 Special Studies in Education (Cr1)
See Statement on Special Studies. Offered on demand.

EDUC 292 Special Studies in Education (Cr2)
See Statement on Special Studies. Offered on demand.

EDUC 293 Special Studies in Education (Cr3)
See Statement on Special Studies. Offered on demand.

Electrical Technology (ELTC)

ELTC 107 Electrical Wiring I (Cr3) (3:1)
This course provides an introduction to the practices of electrical wiring with a focus on residential single and multi-family dwellings. Covers project planning, materials calculation, and National Electrical Code based installation and wiring practices. Formerly ELTC 807. Prereq.- EMEC 101. Additional course fees $20.00.

ELTC 109 Electrical Wiring II (Cr3) (3:1)
Practices of electrical wiring with a focus on commercial buildings; project planning, materials calculation, and NEC-based installation and wiring practices. Formerly ELTC 809. Coreq. - ELTC 107. Additional course fees $20.00.

ELTC 211 National Electrical Code (Cr4) (4:0)
Preparation for the Masters License Examination including interpretation and application of the current release of the National Electrical Code. Covers calculations; branch and feeder circuits; service entrances; switches, switch boards and panel boards; general equipment; motor circuits, transformers, and welders. Prereq.- ELTC 109 or permission of instructor.

ELTC 222 Solar Photovoltaic Systems I (Cr3) (2:2)
This is an introductory course on Solar Photovoltaic (PV) systems and components including system sizing and design for residential and light commercial projects. Other topics covered include energy conversion fundamentals, installation best practices, NEC compliance and ROI financial analysis. After completing this course, students are eligible to take the North American Board of Certified Energy Practitioners (NABCEP®) PV Entry Level exam. Prereq.- EMEC 101. Additional course fees $30.00.

ELTC 260G Electrical Construction Practicum (Cr2) (2:0)
Work experience at an approved electrical contracting firm providing exposure to low and mid-level positions. Writing and presenting research, and analysis of a complete electrical installation project. The tasks will be consistent with the course work of the preceding semester. Prereq.- completion of the first three semester technical courses in the Electrical Construction Technology degree program and ENGL 101.

ELTC 265 Electrical Cabling Systems I (Cr3) (2:2)
This course introduces students to the design, installation and application of low voltage wiring systems used in both residential and light commercial settings. National Electrical Code class 1, 2 and 3 circuits are discussed along with the applicable NEC Articles governing installation standards. Basic home computer networking protocols, security / video surveillance systems, and lighting control systems are all examined in this introductory course. Additional Course fees $30.00.

Electromechanical Technology (EMEC)

EMEC 101 Electrical Fundamentals (Cr3) (2:2)
Provides a foundation of knowledge in electricity. Covers fundamental electrical concepts, EMF, current, resistance, power, AC and DC series and parallel circuit operation and analysis, inductance, capacitance, meter usage, schematics, and circuit component operation. Industrial safety stressed and math applications are reviewed. Practical lab application of concepts. Also available through Online Learning. Additional course fees: $20.00.

EMEC 105 Introduction to Fluid Power (Cr3) (2:2)
Description of basic fluid systems and introduction to hydraulic and pneumatic component hardware; work, energy, and power introduced and applied to the fluid power system. Prereq. - Appropriate competence as outlined in the Mathematics Placement Policy or MATH 022. Additional course fees: $20.00.

EMEC 107 Instrumentation Safety (Cr1) (1:0)
This course describes the importance of how an Instrumentation technician needs to perform the troubleshooting of instruments and associated circuitry commonly found in industry. Discussions and hands-on activities include electrical safety, stored energy and testing of lab demonstrations to simulate what an instrumentation technician will encounter while troubleshooting.

EMEC 110 Mechanical Components (Cr4) (3:2)
This course introduces the mechanical components and fasteners used in automated control systems. Discussions and hands-on activities include the use of hand tools, individual mechanical components and mechanical assemblies including: belts, chains, gears, gear drives, bearings, shafts, scales, seals and couplings. Pre- or Coreq. - ENGG 117. Additional course fees: $10.00.

EMEC 115 Mechanical Skills for Technicians (Cr1) (0:2)
Covers types of components and fasteners; hand tool usage; basic operation of hand power tools, measurement and layout applied to basic electromechanical projects. Only one of EMEC 110 or EMEC 115 may be applied to graduation in Electromechanical Technology. Offered spring semester only.

EMEC 117 Industrial Rigging (Cr1) (1:1)
The course provides basic rigging skills required for installation, setting or moving of industrial equipment and the use of ladders and scaffolding. This

introduction stresses safe application of rigging techniques, the use of various devices in equipment installation, alignment, lifting and the calculation of load, center of gravity and proper material handling.

EMEC 118 Hand and Power Tools (Cr1) (1:0)
This course covers proper selection, safe use, care and maintenance of both hand and power tools. Also available through Online Learning.Additional course fees: $10.00.

EMEC 125 Process and Automation Diagrams - P&ID (Cr2) (1:3)
This course is an introduction to reading, interpreting and developing Process & Instrumentation Drawings (P&ID) also known as Piping & Instrumentation Diagrams or Process and Control Diagrams. The Identification of symbols and function labels commonly found on P&ID, description of how system components are related and tracing process piping and control loop functions are discussed and practiced.

EMEC 130 Introduction to Process Control (Cr3) (3:0)
This course introduces industrial process control and how instrumentation is needed to control the desired outcome. Discussions and online activities include instrumentation loops, instrumentation documents, principles of measurements, basic controller types, advanced control, and final elements.

EMEC 135 Electrical Motors and Controls (Cr4) (3:2)
Concepts of electricity, electronics and controls related to industrial applications; industrial control devices and sensors; relays and electromechanical control; electrical diagrams; transformers and power distribution; solid state power devices; motors, starters and drives; AC/DC motor control; process control fundamentals. Prereq. - EMEC 101. Additional course fees: $30.00.

EMEC 140 Sensors, Wiring and Troubleshooting (Cr1) (0:2)
This course covers the basic discrete sensors and an introduction to basic analog sensors used in automated manufacturing systems and processes. The student will be exposed to various sensor technologies, and through the use of hands-on labs and exercises, will determine sensor selection, applications, installation, wiring and troubleshooting. The proper use of hand tools and multimeter(s) are incorporated, along with appropriate industry safety standards. Pre- or co-req. EMEC101.

EMEC 220 Instrumentation I (Cr3) (2:3)
This is the first of two courses that teach process control instrumentation. The course covers temperature and pressure instruments and sensors, basic transmission signals and communications, safety and Safety Instrumented Systems (SIS). Through the use of theory and hands-on practice, students will practice device installation, wiring and troubleshooting using current industrial equipment. Safety and all applicable industry standards are incorporated throughout the course. Prereq. - EMEC125 and 130. Additional course fees: $20.00.

EMEC 225 Instrumentation II (Cr3) (2:3)
This is the second of two courses in process control instrumentation. The course covers level and flow measurements and instruments, final elements such as valves, automatic and manual control and instrumentation and control applications. Through the use of theory and hands-on practice, students will practice device installation, wiring and troubleshooting using current industrial equipment. Safety and all applicable industry standards are incorporated throughout the course. Pre- or Coreq. - EMEC220. Additional course fees: $20.00.

EMEC 240 Industrial Control Systems I (Cr4) (3:3)
This is a first course in industrial control systems that covers programmable logic controllers (PLCs) and programmable automation controllers (PACs) operation, application, programming and troubleshooting. PLC/PAC hardware identification, input/output (I/O), network communications and I/O wiring is presented. I/O and internal addressing, tags, alias tags and data types are presented and practiced. The basic software instruction set is covered including contacts, coils, timers, counters, data manipulation, comparison and arithmetic. Program control using subroutines and controller organization is also incorporated. Prereq. - EMEC 101, Pre-or co-req EMEC 140. Additional course fees: $80.00.

EMEC 245 Industrial Control Systems II (Cr3) (2:3)
This is the second of two courses in Programmable Logic and Programmable Automation Controllers (PLC/PAC). The course covers the advanced instruction set including bit shifts, sequencers and advanced math instructions. Analog control systems are introduced taking the student from simple setpoint control to Proportional-Integral-Derivative (PID) control. Human Machine Interface (HMI) screens are developed and interfaced to the PLC/PAC to form a complete control system. Prereq. - EMEC 240. Additional course fees $80.00.

EMEC 251 Mechanical Systems (Cr3) (2:3)
Operation, diagnostics, repair, and modification of automation with emphasis on advanced mechanical and fluidic systems found in industrial robotics, conveyors, CNC, packaging machinery, casing machinery, and plastics molding equipment. Preventative maintenance and applicable OSHA safety standards. Pre- or coreq. - EMEC 105, 110, and 135. Additional course fees: $10.00.

EMEC 253 Electromechanical Systems I (Cr4) (3:2)
Operation, diagnostics, repair, and modification of automation with emphasis on advanced mechanical and fluidic systems found in industrial robotics, conveyors, CNC, packaging machinery, casing machinery, and plastics molding equipment. Preventative maintenance and applicable OSHA safety standards. Pre- or coreq. - EMEC 105, 110, and 135. Final offereing Fall 2016.

EMEC 260G Electromechanical Technology Practicum (Cr2) (0:0:8 practicum)
Actual work shadowing experience in manufacturing or service organizations providing exposure to the maintenance and/or engineering functions involved in modern factory automation design, installation, and servicing; written analysis of equipment problems and maintenance planning. Pre- or coreq. - completion of all other technical courses in Electromechanical Technology degree program and ENGL 101.

EMEC 281 Independent Electromechanical Study (Cr1) (0:2)
Independent study in an advanced topic in electromechanical technology under close supervision of the Electromechanical Technology faculty; conducted primarily in a working lab environment, project requires the student to research information, collect and interpret data, and present the conclusions in written and oral form. Prereq. - EMEC 253.

EMEC 282 Independent Electromechanical Study (Cr2) (0:4)
Independent study in an advanced topic in electromechanical technology under close supervision of the Electromechanical Technology faculty; conducted primarily in a working lab environment, project requires the student to research information, collect and interpret data, and present the conclusions in written and oral form. Prereq. - EMEC 253.

Electronics Technology (ELEC)

ELEC 101 DC/AC Circuit Analysis I (Cr4) (3:3)
This course provides an introduction to the fundamentals of direct and alternating circuit theory including definitions of voltage, current, resistance, and power; Ohm's and Kirchoff's laws; and series-parallel circuit analysis. Concepts of magnetism and sine waves as they related to electronic are covered. Lab work emphasizes related hands-on skills such as circuit wiring, use of test equipment, and data taking and reporting. Prereq. - Appropriate competencies as outlined in the Mathematics Placement Policy or MATH 026 or MATH 028. Offered fall semester only. Additional course fees: $25.00.

ELEC 121 Technical Computer Applications (Cr2) (2:0)
This course addresses the computer literacy of students in technology programs. Aspects of reporting technical information are covered including audience, procedure, spreadsheets, graphs, schematics, as well as format and organization. Students are introduced to software applications relevant to the discipline including MS Office, schematic capture and simulation, virtual test equipment, and wikis. Navigational and file management in the Windows environment is important for course success.

ELEC 126 Digital Electronics I (Cr3) (2:2)
This introductory course in digital electronics covers topics such as number systems, combinational logic circuits, Boolean theorems, flip-flops, counters, arithmetic circuits, display interface, and data storage and transfer. Labs emphasize the use of specifications in prototyping and troubleshooting discrete component digital circuits. Schematic capture software is used to simulate and simplify circuits. Prereq.- ELEC 101. Additional course fees: $25.00.

ELEC 151 DC/AC Circuit Analysis II (Cr4) (3:3)
The second in a two-course sequence, this course provides in-depth coverage of DC and AC concepts. Circuit analysis using network theorems and mathematical solutions in applied to DC circuits. The response of resistors, capacitors, and inductors in both DC and AC circuits is detailed, with an emphasis on application and frequency response. Lab work emphasizes related hands-on skills such as circuit wiring, use of test equipment, and data taking and reporting. Prereq.- ELEC 101; Pre- or coreq.- MATH 140. Offered spring semester only. Additional course fees: $25.00.

ELEC 155 Introduction to Solid State Devices (Cr2) (1:2)
This is an introductory project course in circuit prototyping. Solid state devices such as diodes, transistors, and voltage regulators are introduced. Emphasis is on basic component characteristics and analysis in the context of a power supply circuit. Lab emphasizes component specifications and typical circuit configurations. The project introduces circuit board layout and wiring, chassis wiring and harnessing, and other fabrication techniques. Prereq.- ELEC 101; Pre- or coreq.- EMEC 115. Offered spring semester only. Additional course fees: $75.00.

ELEC 161 Electronics Soldering (Cr2) (1:2)
Theoretical understanding and hands-on experience in the soldering of electronicassemblies; materials management, soldering processes and techniques, cleaning processes and techniques, desoldering processes and techniques, the application of workman ship standards; materials and processes to perform cause and effect analysis; laboratory exercises to provide hands-on experience hand soldering through hole and surface mount assemblies, inspecting product for adherence to workmanship standards, and removing and replacing defective components.

ELEC 177 Electronics Manufacturing I (Cr2) (1:2)
Process, assembly and soldering of electronic circuits; introduction to applied chemistry and safety; materials; soldering and cleaning processes; application of workmanship standards and best practices; lab experiences in hand soldering through-hole and surface mount assemblies, inspection and component replacement. Offered fall semester only. Additional course fees: $50.00.

ELEC 207 Solid State Circuits (Cr4) (3:3)
This is the first of a two-course sequence in linear electronics. Topical coverage includes: physical concepts of semiconductors, diodes and power supply circuits, and bipolar-junction transistors (BJTs) used as switches and small- and large-signal amplifiers. Labs emphasize the analysis, prototyping, and troubleshooting of actual and simulated semiconductor circuits; interpreting manufacturer specifications; and documenting procedures and results. Prereq. - ELEC155. Offered fall semester only. Additional course fees: $25.00.

ELEC 208 Digital Electronics II (Cr3) (2:2)
Second course in digital electronics. Includes: simplification by Boolean Algebra and Karnaugh mapping, design of truncated sequence sequential counters, IC specifications and interfacing, tri-state devices and busing, A/D and D/A, memory devises, and an introduction to CPLDs. Labs emphasize the analysis, prototyping, and troubleshooting of digital circuits as well as interpretation of manufacturer specifications. Prereq.- ELEC 126 and 155. Offered fall semester only. Additional course fees: $25.00.

ELEC 226 Microprocessors I (Cr3) (2:2)
Eight-bit microprocessors, including digital computers, computer languages, microprocessor architecture, memory, input/output, 8080A/8085 based microprocessor systems, MPU, instructions and timings, instruction format, how to write and execute simple programs, programming the 8080/8085, 8080/8085 instructions, arithmetic logic; and branch operations, counter and timing delays, stack and subroutines, interfacing peripherals, and applications. Prereq. - ELEC 208. Offered spring semester only.

ELEC 230 Team Project (Cr2) (1:3)
Students from CAD and electronics programs work in interdisciplinary teams to design and prototype an electromechanical product under specified guidelines; emphasis on effective teamwork, prototyping, technical writing and reporting, and oral presentation skills. Only one of the following may be applied to graduation: ELEC 230, ENGG 230, or WELD 230. Prereq. - ELEC 208; Pre- or coreq.- ELEC 232, ENGL 151 and CMTH 102. Offered spring semester only.

ELEC 232 Linear Integrated Circuits (Cr4) (3:3)
This is the second in a two-course sequence in linear electronics covering field-effect transistors in switch and small-signal amplifier applications, a comparison of FETs to BJTs, thyristors, IC fabrication, op-amps in linear and non-linear applications, and voltage regulators. Labs emphasize prototyping, simulating, troubleshooting, and interpretation of procedure and manufacturer specifications. Prereq. - ELEC 207. Offered spring semester only. Additional course fees: $25.00.

ELEC 271 Computer Electronics Practicum I (Cr3) (0:0:9 practicum)
Work-based experience assisting in the servicing of computer systems with focused exposure in carrying out routine maintenance, computer upgrades, common PC setup and repairs, and customer relations. Written analysis of problem solving project. Pre - or - Coreq. - ELEC 255.

ELEC 272 Computer Electronics Practicum II (Cr3) (0:0:9 practicum)
Work-based experience assisting in the servicing of computer systems including networks and mainframes with focused exposure in carrying out troubleshooting, repair and upgrades. Written analysis of comprehensive systems problem solving project. Coreq.- ELEC 255. Course numbers ending with G are Writing Intensive (WI).

ELEC 281 Independent Electronics Study (Cr1)
An independent study experience of a topic of interest to the student under close supervision of a member of the Electronics Department faculty. Prereq. - sophomore standing in Electronic Technology and departmental permission.

ELEC 282 Independent Electronics Study (Cr2)
An independent study experience of a topic of interest to the student under close supervision of a member of the Electronics Department faculty. Prereq. - sophomore standing in Electronic Technology and departmental permission.

ELEC 283 Independent Electronics Study (Cr3)
An independent study experience of a topic of interest to the student under close supervision of a member of the Electronics Department faculty. Prereq. - sophomore standing in Electronic Technology and departmental permission.

ELEC 284 Independent Electronics Study (Cr4)
An independent study experience of a topic of interest to the student under close supervision of a member of the Electronics Department faculty. Prereq. - sophomore standing in Electronic Technology and departmental permission.

Emergency Services (EMGS)

EMGS 104 Essentials of Firefighting and Emergency Response (Cr4) (3:2)
This course will introduce basic firefighting concepts within the context of emergency response. Topics will include an overview of the fire service, fire service organization, firefighter safety, personal protective equipment, self-contained breathing apparatus, terrorism awareness, fire behavior, fire extinguishers, water supply, fire hose, ropes, and hazardous materials. Exterior fire group operation discussion includes ladders, communications, protective systems/sprinklers, forcible entry, and fire prevention. Students will be required to complete or obtain certificates in Hazardous Materials Awareness, Hazardous Materials Operations, Intro to Incident Command Sys. (IS100) and National Incident Management Sys. (IS700).

EMGS 105 Essentials of Interior Firefighting and Emergency Response (Cr2) (1:2)
This course will introduce concepts related to interior firefighting and emergency response. The course is designed to introduce firefighters to interior fire ground operations including nozzles and streams, self-contained breathing apparatus (SCBA), rescur, ventilation, fire suppression, salvage, and firefighter survival. It builds upon concepts from EMGS 104 while providing information and procedures that will integrate and complete basic firefighting and emergency response competency skill sets. Prereq.- EMGS 104.

EMGS 109 Vehicle Rescue (Cr3) (2:2)
Materials and techniques necessary to meet the needs of fire, rescue, and ambulance services personnel who provide highway vehicle rescue operations; tools and equipment associated with rescue services, preparation for more advanced training in rescue operations. Students will be required to carry and maintain accident and health insurance and/or workman's compensation and sign a waiver of liability.

EMGS 115 Emergency Medical Technician - Basic (Cr6) (4:4)
This course provides fundamental training required to perform as an emergency service medical personnel and to become certified as an EMT. This skills-oriented course involved extensive hands-on training in the evaluation and treatment of the sick and injured. This course requires mandatory student lab time at a hospital in a clinical setting. Students will be required to complete a PA Criminal Background check, FBI Background check, physical exam, immunization record, and 9 panel drug screen as per clinical affiliation policy prior to starting the hospital patient assessment portion of the course. Formerly EMGS 107+108. May not be taken for credit after completing these courses. Additional course fees: $13.00.

EMGS 120 Emergency Services Health and Safety (Cr3) (3:0)
This course introduces the basic concepts of occupational health and safety as they relate to emergency service organizations. Topics include risk evaluation and control procedures for fire stations, training sites, emergency vehicles, and emergency situations involving fire, emergency medical services, hazardous materials response and technical rescue response agencies. Offered fall semester only.

EMGS 122 Emergency Action Planning (Cr3) (3:0)
This course is intended to provide basic emergency action planning information while emphasizing the importance of the emergency planning process. Additional subject matter includes history, laws and regulations, common practices, risk assessments, response actions including mitigation and recovery. The phases of emergency management are explored along with the roles and responsibilities of all stakeholders. Offered fall semester only.

EMGS 151 Fire Prevention (Cr3) (3:0)
Organization and implementation of fire prevention education programs and fire department public information programs; resource identification and usage; codes and regulations pertaining to fire prevention. Offered spring semester only.

EMGS 201 Hazardous Materials (Cr3) (3:0)
Chemical characteristics and reaction to storage, transportation and handling of hazardous materials, i.e., flammable liquids, combustible solids, oxidizing and corrosive materials and radioactive compounds; emphasis on emergency situations and fire fighting control. Offered spring semester only.

EMGS 202 Fire Tactics and Incident Command (Cr3) (3:0)
Basic fire fighting tactics, the strategy and equipment to be used in extinguishing different types of fires; how to use available manpower and equipment efficiently; techniques in predicting fire severity; when, where and how to ventilate a building.

EMGS 216 Emergency Fiscal Administration (Cr3) (3:0)
The course will examine the techniques and operations of fiscal administration as it relates to the public sector with an emphasis on emergency services and public safety. Subject matter will include public funding, spending, budgeting, risk management, and grant writing. . Information and procedures will be introduced and practiced to allow students to complete a functioning budget, as well as develop future budget projections and funding scenarios. Offered fall semester only.

EMGS 217 Public Information and Relations (Cr3) (3:0)
This course will provide an effective way to manage public information at an incident or event, regardless of the size and complexity of the situation or the number of entities involved. Emphasis is placed on understanding the perspective of media personnel arriving on the scene. Students will learn how to prepare for media arrival along with agency interface. Presentation skills that afford concise and accurate information distribution will be discussed and practiced. Offered spring semester only.

EMGS 218 Incident Command and Management (Cr3) (3:0)
This course is a collection of FEMA course that comprise IS 100: Introduction to Incident Command System; IS 200: ICS for Single Resources and Initial Action Incidents; IS 300; IS 700 National Incident Management System an Introduction; and IS 800: National Response Framework an Introduction. Through an interrelated progression, the student will be exposed to the comprehensive approach of the National Incident Management System. Offered spring semester only.

EMGS 219 Regulatory Compliance (Cr3) (3:0)
Provisions of the regulatory agencies comprising Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA) and US Department of Transportation (DOT) as well as state agencies with similar responsibilities require that entities engaged in emergency response provide awareness and adequate training to ensure compliance with a multitude of regulations. This course is an overview of regulatory requirements along with the regulations that are pertinent to the response community. Offered spring semester only.

EMGS 221 Emergency Service Management (Cr3) (3:0)
Management theory as applied to various phases of the operation of an emergency service organization; efficient and effective use of personnel, equipment, and resources; application of computers to various emergency services operations. Offered fall semester only.

EMGS 231 Law for Emergency Services (Cr3) (3:0)
The legal aspects of fire service organizations; arson law, legal rights and responsibilities of fire officers and court procedures; laws relating to both criminal and civil topics. Offered fall semester only.

EMGS 255 First Responder Training (Cr3) (2:2)
For police, fire, and rescue personnel responding to the scene of injury or illness; procedures used to initiate treatment while awaiting arrival of a higher level of care includes but not limited to CPR, shock and bleeding, and patient survey. Students will be required to carry and maintain accident and health insurance and/or workman's compensation and sign a waiver of liability. Additional course fees: $13.00.

Engineering (ENGG)

ENGG 100 Engineering Graphics (Cr3) (2:2)
Training and experience in drafting procedure, practice and principles; basic skills and techniques of drafting including freehand orthographic and pictorial sketching; use of drafting equipment; essentials of lines, lettering, multiview projections, section views, dimensioning, tolerancing and notation in execution of detail and assembly drawings; introduction to computer-aided design basics for non-CAD majors. Also available through Online Learning. Additional course fees: $20.00.

ENGG 115 Computer Aided Design I (Cr3) (2:2)
Basic elements of computer-aided drafting using AutoCAD; working knowledge of system and screen controls, file management, creating entities, editing techniques, creating two-dimensional drawings, and printing/plotting methods. Pre- or coreq.- ENGG 100. Offered fall semester only.Additional course fees: $15.00.

ENGG 117 Technical Drawings and Specifications (Cr3) (3:0)
Interpreting and sketching engineering drawings and specifications; multiview projection, dimensioning, sectioning, geometric dimensioning and tolerancing; working drawings, pictorials; introduction to electrical, electronics, tooling, weld, and plastics drawing. Also available through Online Learning.

ENGG 125 Manufacturing Processes (Cr3) (3:1)
Fundamentals of manufacturing; survey of engineering materials, including the properties of each material and phase diagrams; processes for modifying materials; product design and material selection, relationship between conceptual, functional and process design; manufacturing processes; fundamental workings of the process, its capabilities, typical applications, advantages and limitations. Also available through Online Learning.

ENGG 191 Special Studies in Engineering (Cr1)
See Statement on Special Studies. Offered on demand.

ENGG 192 Special Studies in Engineering (Cr2)
See Statement on Special Studies. Offered on demand.

ENGG 193 Special Studies in Engineering (Cr3)
See Statement on Special Studies. Offered on demand.

ENGG 194 Special Studies in Engineering (Cr4)
See Statement on Special Studies. Offered on demand.

ENGG 201 Statics (Cr3) (3:0)
This is a calculus-based, problem-solving engineering course studying Engineering Mechanics - Statics. Topics covered are force resultants, force systems & moments, equilibrium of particles & rigid bodies, vector analysis, conditions for equilibrium in two & three dimensions, structural analysis, shear & bending moment diagrams, and friction. Prereq. - PHYS215 with C or better; Pre- or co-requisite - MATH210. Also available through Online Learning.

ENGG 205 Parametric Modeling (Cr3) (2:2)
Create, edit, manipulate and plot part and assembly models and drawings using parametric feature-based 3-D CAD modeling software such as Autodesk Inventor or SolidWorks. Using digital prototype models of industrial, mechanical, consumer product and plant design applications, perform rendering and analysis of design,animation and dynamic simulation of parts and assemblies; interface with Rapid Prototyping (RPP) and Computer-Integrated Manufacturing (CIM). Pre- or coreq. -ENGG261. Offered spring semester only.Additional course fees: $40.00.

ENGG 220 Design Project (Cr3) (2:2)
Students work individually or in teams to design a product that will utilize manufactured parts or components. Based on design parameters, students will research, develop, design, analyze and document their project while improving their technical writing, reporting, record keeping and drawing presentation skills. Pre- or coreq.- ENGG 205 and ENGL 151. Offered fall semester only.Additional course fees: $40.00.

ENGG 230 Team Project (Cr3) (2:2)
CAD students participate in teams to design and prototype a product under specified guidelines; emphasis on technical writing and reporting, effective teamwork, and prototyping. Only one of the following may be applied to graduation: ELEC 230 or ENGG 230. Pre- or coreq.- ENGG 205. Offered spring semester only.Additional course fees: $40.00.

ENGG 251 Strength of Materials (Cr3) (3:0)
This is an engineering and scientist level, calculus-based, problem-solving engineering course. Topics covered are the strength of engineering materials, including stress, strain, beams, columns, torsion, thin wall cylinders, thermal stress, and theory of failure Pre- or coreq.- ENGG 201 with C or better. Also available through Online Learning.

ENGG 252 Dynamics (Cr3) (3:0)
Kinematics and dynamics of particles and rigid bodies, principles of work and energy and impulse and momentum. Prereq.- ENGG 201.

ENGG 260 Engineering Materials (Cr3) (3:0)
Properties and structure of materials, metal crystallization, deformations and working processes, metallic alloys, heat treatment, corrosion and nonmetallic materials. Offered alternate years.

ENGG 261 Computer Aided Design II (Cr3) (2:2)
Advanced computer-aided drawing and editing commands as applied to mechanical, architectural and civil engineering work; geometric dimensioning and tolerancing, symbol libraries, attributes, script, DXF and basic isometric and 3-D wireframe drawing commands. Prereq.- ENGG 115. Offered spring semester only.Additional course fees: $20.00.

ENGG 262 Computer Aided Design III (Cr3) (2:2)
Working knowledge in creating 3-D drawings, surface and solid modeling, and visualization using AutoCAD; menu and toolbar customization and introduction to AutoLISP programming language; basic parametric modeling techniques. Prereq.- ENGG 261. Offered fall semester only.Additional course fees: $40.00.

ENGG 268 CAD Practicum (Cr2) (0:0:6)
Actual work experience in any of a variety of engineering disciplines providing exposure to the methodology of drafting and design technology to its product or service; presentation of a report on key experiences related to new product or process technology, drafting and design technology, or productivity improvement; emphasis on drafting and design issues, documentation, and communication skills. Prereq.- ENGL 101, ENGG 261, and approval of the instructor.

English (ENGL)

ENGL 025 Writing Skills I (Cr4) (4:0)
The course introduces students to the stages of the writing process and basic strategies for organizing and developing topics and improving coherence in single-and brief multi-paragraph expository writing. Students improve sentence and paragraph development and organization, sentence structure, punctuation, standard usage through writing, revision, and editing practice. Students read articles to identify and restate key ideas. Students identify common patterns of error in their writing to improve fundamental editing and proofreading skills. Prereq.- Placement as determined by the English Department through testing.

ENGL 026 Writing Skills II (Cr4) (4:0)
Students develop writing skills critical for success in college courses. They write multi-paragraph essays (4-5 paragraphs) that use details and evidence to support topic sentences and thesis statements. Students learn and use stages of the writing process and develop strategies for organizing and developing topics and improving coherence in multi-paragraph essay writing. They read articles and summarize the key ideas. Students also work on refining their

editing and proofreading skills. Prereq.- Placement as determined by the English Department through testing or course work (R in ENGL 025 Writing Skills I)

ENGL 027 Writing Skills Workshop (Cr4) (1:3)
This course is taught in tandem with ENGL 101 and supports the skills learned in that course: logical and focused writing, thorough development of a main point by means of supporting ideas and evidence, and integrating information from secondary sources. Students will use summary, paraphrase, and direct quotation in various forms of thesis-based writing. To support the skills needed for ENGL 101, students will do in-depth work on paragraph writing, using details and evidence to support topic sentences and thesis statements. Students will learn and use the stages of the writing process. They will develop strategies for organizing and developing topics and improving coherence in multi-paragraph essay writing. Students will acquire editing and proofreading skills. Placement into developmental writing as determined by the English Placement test or course work.

ENGL 028 English Vocabulary III (Cr3) (3:0)
Students with high-intermediate knowledge of English will expand their vocabulary by 300 new words which they will learn to recognize and use in written and oral communication. Students will also develop and improve vocabulary-learning strategies, such as inference from context, understanding word families, recognizing synonyms, analyzing word parts, using dictionaries. Students complete 15 hours of using ESL software as part of the requirements for this course. Prereq. - English language competence as determined by the English or ESL department through testing and/or course work.

ENGL 101 English I (Cr3) (3:0)
This course gives close attention to the writing process in various forms of thesis-based writing. The course develops skills in logical and focused writing, through thesis development using supporting ideas and evidence. In addition, students learn to integrate and document information from sources. Prereq. - Competence in reading and writing as determined by English Department through testing and/or course work. Also available through Online Learning. Approved for the Honors Program.

ENGL 151 English II (Cr3) (3:0)
Students continue to develop the academic writing and critical reading skills begun in English I. Students may elect to work on introduction to literature (L), report writing (R), or technical writing (T). Prereq.- ENGL 101. Also available through Online Learning. ENGL 151L (literature option) is approved for the Honors Program and has a designated as a Diversity (D) core course.

ENGL 201G British Literature I (Cr3) (3:0)
Survey of major works of selected British authors (before 1800) from Old English through the Eighteenth Century; emphasis on understanding the cultural and historical context of the literature as well as on analysis and interpretation of the works of literature. Prereq. - ENGL 151. Also available through Online Learning. Core: AH, WI.

ENGL 203G Shakespeare (Cr3) (3:0)
By studying Shakespeare's plays and poetry, students will learn to read text accurately, critically and imaginatively, and explore Shakespeare's world and his relevance to ours. Through reading, discussion, and written analysis, we will examine Shakespeare's work in light of the historical, political, cultural contexts in which Shakespeare wrote and ultimately consider the question "Why is Shakespeare's work still important to us?" Approved for the Honors Program. Writing intensive. Prereq. - ENGL151. Core: AH, WI.

ENGL 205G American Literature I (Cr3) (3:0)
Survey of major American writers from Colonial period to the Civil War, including works from Edwards, Jefferson, Wheatley, Franklin, Douglass, Emerson, Fuller, Thoreau, Poe, Dickinson and Whitman. Emphasis is on texts but with attention to historical, cultural, and intellectual backgrounds. Prereq. - ENGL 151. Core: AH, WI.

ENGL 211G Plays: Classical to Contemporary (Cr3) (3:0)
This course introduces students to the analysis of plays as literary text that shapes both performance and an understanding of culture and the human experience. Plays from classical Greece to contemporary Theatre of Diversity will be covered along with the comments of playwrights, directors, actors and critics. Students will analyze drama from psychological, historical, philosophical, structural and dramatic perspectives. Students may not receive credit for both CMTH 221G and ENGL 211G. Prereq.- ENGL 151. Core: AH, D, WI.

ENGL 215G Multicultural Adolescent Literature (Cr3) (3:0)
A writing-intensive course based on multicultural literature for adolescents. Overview of materials based upon the socio-cultural and developmental characteristics of young adults with an emphasis on multiculturalism and English language learners; examination of major genres in young adult literature. Ten hours of educational field experience or service learning activity required. Prereq.- ENGL151. Core: AH, D, WI.

ENGL 250G Latin American Literature (Cr3) (3:0)
This course is a survey of contemporary Latin American writers, including Borges, Allende, Garcia Marquez, Vargas Llosa, Fuents and others. The emphasis of the course is on reading and writing, with an additional focus on history, culture and literary terms. The course is conducted in English, including class discussions, readings and assignments. Prereq.- ENGL151L. Core: AH. D, WI.

ENGL 251G British Literature II (Cr3) (3:0)
Major works of selected British authors from the Pre-Romantics to the 20th century. Emphasis on literary analysis but with attention to intellectual and historical backgrounds. Offered on demand. Writing intensive. Prereq. - ENGL 151. Core: D, AH, WI. Approved for the Honors program. Also available through Online Learning.

ENGL 253 Creative Writing (Cr3) (3:0)
This course provides beginning writers with the opportunity to explore imaginative uses of language through the fundamentals of poetry, fiction, and literary nonfiction. Conducted through lectures and workshops, the course exposes students to prominent examples of the kind of writing they are expected to produce, and it promotes the critical analysis of their own writing, as well as the writings of their peers. Also available through Online Learning. Prereq.- ENGL101C. Core AH, D.

ENGL 255G American Literature II (Cr3) (3:0)
This survey of major American writers from the Civil War to the present emphasizes literary works with close attention to historical, cultural, and intellectual backgrounds. Prereq. - ENGL 151. Also available through Online Learning. Core: AH, CT, D, WI.

ENGL 256G Modern Poetry (Cr3) (3:0)
A survey of modern American poetry beginning with Walt Whitman and up to contemporary poets. The course emphasizes understanding of primary literary texts in their socio-historical, political and cultural contexts. The craft and technique of poetry writing will be explored. Prereq. - ENGL 151. Core: D, AH, WI. Also available through Online Learning.

ENGL 257G 20th Century Literature by Women: Self-Images and Self-Awareness (Cr3) (3:0)
A sophomore-level study of 20th century literature by women through works by major authors of the time, specifically focusing on the written images these authors created of women, and their search for self-awareness in various cultures. Prereq. - ENGL 151. Core: AH, D, WI. Also available through Online Learning.

ENGL 260G Contemporary Literature (Cr3) (3:0)
In this course we will study literary works in English and in translation dating from mid-twentieth century to the present with a focus on non-Western literature. We will emphasize situating individual works within their cultural historical, political, and social contexts. The course will include all four main literary genres-poetry, short fiction, the novel, and drama-and works will range from traditional to experimental. Prereq. - ENGL 151. Core: AH, CT, D, WI.

ENGL 264G Irish Literature (Cr3) (3:0)
A survey of the literary works of Irish authors from the mid-nineteenth century to the present, the course emphasizes understanding primary literary texts within their historical, political, and cultural contexts. Prereq.- ENGL151. Approved for the Honors Program. Core: AH, WI, D.

ENGL 265G African-American Literature (Cr3) (3:0)
The literary works of African-Americans from pre-twentieth century literature to the present; genres and themes in their historical, political, and socio-cultural contexts. Prereq. - ENGL 151. Approved for the Honors Program. Core: AH, D, WI. Also available through Online Learning.

ENGL 267 Poetry Writing(Cr3) (3:0)
This course is intended for students who have experience in writing poetry but would like to improve their writing. The content, structure, and techniques of contemporary poems will be studied, with an emphasis of using such study for the writing and critiquing of the students' own poems. Conducted through lectures and workshops, the course promotes the critical analysis of their own writing, as well as the writings of their peers, with the purpose of writing publishable poems. Prereq: ENGL101C or permission from the instructor. Core: AH, D.

ENGL 291 Special Studies in English (Cr1)
See Statement on Special Studies. Offered on demand.

ENGL 292 Special Studies in English (Cr2)
See Statement on Special Studies. Offered on demand.

ENGL 293 Special Studies in English (Cr3)
See Statement on Special Studies. Offered on demand.

English as a Second Language (ESLL)

ESLL 001 ESL I (Cr6) (6:0)
For the student with little or no knowledge of English, this course integrates the basic skills listening, speaking, reading, and writing English. Students will practice these skills through various activities and test in a college classroom environment. Students complete 30 hours (2 additional hours per week) of using ESL software in the ESL computer lab as part of the requirements for this course. They must check in with the lab assistant.

ESLL 002 Clear Speech I (Cr3) (3:0)
This course begins the study of English pronunciation for non-nature speakers with beginning level language proficiency. Students will learn t correctly articulate the simple vowel and consonant sounds of English using the basic phonetic alphabet. In this class, students will apply the building blocks of speech and use rhythm, stress, and intonation for more effective communication. In addition, students complete 15 hours of independent study using ESL software in the ESL computer lab as part of the requirements for this course.

ESLL 003 ESL Culture Study (Cr6) (0:9)
For students with little or no knowledge of English, this course focuses on cultural topics in authentic English-speaking contexts. Students will participate in cultural activities in the local community and in the classroom. Students will discuss and write about the activities in class assignments. This course may be taken two (2) times for credit.

ESLL 004 Technology for Academic Success (Cr3) (3:0)
This course introduces students to computer technologies and related social and linguistic skills for learners who have not had access to technology for academics. Students complete 15 hours using software in the ESL computer lab as part of the requirements for this course.

ESLL 005 ESL Writing II (Cr3) (3:0)
Students with some knowledge of English will study intermediate grammar, create basic sentences, and compose short paragraphs applying the uses of specific times and verb tenses. Students complete 15 hours of using ESL software in the ESL computer lab as part of the requirements for this course.

ESLL 006 ESL II Introduction (Cr3) (3:0)
For the student with fundamental knowledge of English, this course further develops the elementary skills of listening, speaking, reading, and writing English. Students will practice these skills through various activities and tests in a college classroom environment. Students complete 15 hours of using

ESL software in the ESL computer lab as part of the requirements for this course. Prereq.- English language competence as determined by the ESL department through testing and/or course work.

ESLL 007 ESL Speaking II (Cr3) (3:0)
Students with some knowledge of spoken English will learn and practice conversational skills in order to improve their listening and speaking abilities and learn about American culture in ways that will prepare them for academic contexts. Students complete 15 hours of using ESL software in the ESL computer lab as part of the requirements for this course.

ESLL 008 English Vocabulary II (Cr3) (3:0)
Students with low-intermediate knowledge of English will expand their vocabulary by 300 new words which they will learn to recognize and use in written and oral communication. Students will also develop vocabulary-learning strategies, such as inference from context, understanding word families, recognizing synonyms and antonyms, analyzing word parts, using dictionaries. Students complete 15 hours of using ESL software as part of the requirements for this course. Prereq. - English language competence as determined by the ESL department through testing and/or course work.

ESLL 009 ESL Reading II (Cr3) (3:0)
Students with some knowledge of English will read materials that are at an intermediate level and aim to prepare students for reading in an academic environment. Students will also learn new vocabulary by memorizing, using context cues, and learning basic dictionary skills. Students complete 15 hours of using ESL software in the ESL computer lab as part of the requirements for this course.

ESLL 010 Clear Speech II (Cr3) (3:0)
This is the second course in the study of English pronunciation for non-native speakers with intermediate level language proficiency. The course continues the study of pronunciation skills through the study of the phonetic alphabet. Students will learn to accurately articulate English vowels, vowel blends, and linking and ending consonant sounds. Students will further explore how to effectively use rhythm, stress, and intonation in oral communication. In addition, students complete 15 hours of independent student using ESL software in the ESL computer lab as part of the requirements for this course. Prereq.- English language competence as determined by the ESL department faculty.

ESLL 014 Attention to Accent (Cr3) (3:0)
This course is designed for intermediate to advance English language learners who would like to improve their American English pronunciation. Students complete 15 hours using ESL software in the ESL computer lab as part of the requirements for this course. Prereq. - English language competence as determined by the ESL department faculty through testing and/or course work.

ESLL 015 ESL Writing IIIA (Cr3) (3:0)
English language learners will study high intermediate grammar, learn how to select and respond to writing topics, organize ideas, and develop paragraphs in ways that will prepare them for writing in college courses. Students of this course will develop these skills in a network-based computerized classroom. In addition, students complete 15 hours outside of class using ESL software in the ESL computer lab as part of the requirements for this course. Prereq.- English language competence as determined by the ESL department faculty.

ESLL 016 ESL Writing IIIB (Cr3) (3:0)
English language learners will study advanced grammar, learn how to select and respond to writing topics, organize ideas, and develop paragraphs in ways that will prepare them for writing in college courses. Students of this course will develop these skills in a network-based computerized classroom. In addition, students complete 15 hours outside of class using ESL software in the ESL computer lab as part of the requirements for this course. Prereq.- English language competence as determined by the ESL department faculty.

ESLL 017 ESL Speaking III (Cr3) (3:0)
English language learners will develop advanced college and work-related communication skills in individual, small group, and classroom situations. Focus will be on practicing academic listening and oral presentation skills. Activities will also help students develop intercultural understanding and appreciation. Students complete 15 hours of using ESL software in the ESL computer lab as part of the requirements for this course.

ESLL 018 ESL Reading IIIA (Cr3) (3:0)
Students with low-intermediate knowledge of English will improve their ability to read and understand a variety of reading passages. Students will prepare for reading in an academic environment by learning and applying strategies such as predicting, scanning, finding main ideas, developing context clues to build vocabulary, identifying cause and effect, and recognizing facts. Students complete 15 hours of using ESL software as part of the requirements for this course. Prereq. - English language competence as determined by the ESL department through testing and/or course work.

ESLL 019 ESL Reading IIIB (Cr3) (3:0)
Students with high-intermediate knowledge of English will improve their ability to read and understand a variety of reading passages. Students will prepare for reading in an academic environment by applying and improving strategies such as predicting, scanning, identifying main and supporting ideas, making inferences, developing context clues to build vocabulary, identifying cause and effect, and recognizing facts and opinions. Students complete 15 hours of using ESL software as part of the requirements for this course.

ESLL 028 English Vocabulary III (Cr3) (3:0)
Students with high-intermediate knowledge of English will expand their vocabulary by 300 new words which they will learn to recognize and use in written and oral communication. Students will also develop and improve vocabulary-learning strategies, such as inference from context, understanding word families, recognizing synonyms, analyzing word parts, using dictionaries. Students complete 15 hours of using ESL software as part of the requirements for this course. Prereq. - English language competence as determined by the English or ESL department through testing and/or course work.

ESLL031 ESL Writing IV (Cr3)(3:0)
English language learners and international students preparing to enroll in regular college courses or enter the work force with an advanced knowledge of English will study and analyze errors in complex sentence structure and learn test-taking strategies. Students complete 15 hours of independent online study in addition to the requirements for this course. Prereq.- English language competence as determined by the ESL department faculty.

ESLL033 ESL Reading IV (Cr3)(3:0)
English language learners and international students preparing to enroll in regular college courses or enter the work force with an advanced knowledge of English will develop critical reading and thinking skills and learn test-taking strategies. Students complete 15 hours of independent online study in addition to the requirements for this course. Prereq. - English language competence as determined by ESL department faculty.

ESLL035 ESL College Success (Cr3)(3:0)
The course focuses on helping second language learners integrate into the US Higher Education environment. This course examines goal setting, cultural adjustment, college policies, graduation requirements, campus resources, programs and services, student rights and responsibilities, student educational planning and other topics as needs are identified. Designed for advanced second language learners, this course enhances the transition into American society and maximizes the successful matriculation through college. Prereq. - English language competence as determined by ESL department faculty.

ESLL037 ESL Speaking IV (Cr3)(3:0)
English language learners will develop advanced college and work-related communication skills in individual, small group, and classroom situations. Focus will be on practicing academic listening and oral presentation skills. Activities will also help students develop intercultural understanding and appreciation. Students complete 15 hours of using ESL software in the ESL computer lab as part of the requirements for this course. Pereq. - English language competence as determined by ESL department faculty.

Restaurant Management (FOOD)

FOOD 110 Food Preparation I (Cr4) (2:6)
Basic food preparations, including station assignments, theory, personnel organization, service and storage; lecture, demonstration, and participation. Pre.- or coreq.- HOSP 101 and CULA 102. Offered fall semester only.

FOOD 123 Menu Planning and Food and Beverage Cost Control (Cr3) (3:0)
Menu design from fast food operations through fine dining; emphasis on creating balanced menus that are profitable, consumer-driven and nutritionally proportioned; methods of establishing menu selection, cost control in food, beverage, and labor; profit margins, selling price strategy; truth in menu regulations and menu engineering as a marketing and merchandising tool. Offered spring semester only.

FOOD 250 Dining Room Operations (Cr4) (2:4)
This course provides instruction in and practical application of the operation of a restaurant dining room. Students will examine various topics in relation to front of the house operations, management practices, technology, trends and communication techniques. Students will engage in learning theory and practice of service fundamentals through a lab experience. Prereq. - HOSP101 and 130.

Funeral Service Education (FUNS)

FUNS 101 Principles of Funeral Service (Cr2) (2:0)
A review of the typical religious funeral customs associated with Judaism, Roman Catholicism, and Protestantism and strategies to enhance the relationships between the funeral director, the clergy, and the bereaved. Restricted to Funeral students. Prereq. - ACCT101, BIOS160, BIOS202, BUSA152, CHEM135, CISC101 and PSYC221 all with C or better. Offered fall semester only.

FUNS 102 Introduction to Funeral Service (Cr4) (4:0)
An overview of the funeral service profession with an emphasis on professionalism, ethics, funeral history, the Federal Trade Commission (FTC), current trends (pre-need and cremation), statistics, and relevant vocabulary. Restricted to Funeral students. Prereq. - ACCT101, BIOS160, BIOS202, BUSA152, CHEM135, CISC101 and PSYC221 all with C or better. Offered fall semester only.

FUNS 105 Funeral Directing (Cr3) (3:0)
The procedures to be used by the funeral director to carry out the necessary functions associated with the notification of a death, transfer of human remains, arrangement conference counseling, visitation, funeral or memorial services, disposition, and post funeral services; funeral related financial resources (Social Security, Veteran's Administration, National Cemeteries, Armed Forces, Public Assistance, etc.) Restricted to Funeral students. Offered spring semester only.

FUNS 201 Funeral Home Operations I (Cr4) (4:0)
The role and function of an effective funeral home manager with emphasis on entrepreneurial skills related to buying and selling a funeral home, succession planning, managing facilities, financial statements, financing, and consumer behavior. Restricted to Funeral students. Offered fall semester only.

FUNS 203 Pathology for Funeral Service (Cr3)(3:0)
Pathological changes affecting the human body, its structure, function, with particular emphasis on the implications these changes have on the embalming and/or restorative art process. Restricted to Funeral students. Offered fall semester only.

FUNS 210 Embalming Theory I (Cr3) (3:0)
Theoretical training in all phases of the embalming process, including an orientation and introduction to embalming, death, pre-embalming changes, embalming instrumentation, preparation of the body, selection of vessels, injection and drain-age techniques, dilution-distribution-diffusion, cavity treatment, and postmortem examinations. Restricted to Funeral students. Prereq. - BIOS 160 (or BIOS204 and 254) and CHEM135. Offered fall semester only.

FUNS 212 Clinical Embalming I (Cr1) (0:3)
On-campus practical experience in all phases of the applied embalming process. Restricted to Funeral students. Coreq. - FUNS 210. Additional course fees: $75.00. Offered fall semester only.

FUNS 220 Embalming Theory II (Cr3) (3:0)
Theoretical training in all phases of the embalming process, including embalming chemicals and arterial solutions, specific embalming treatments, disaster

management, the history of embalming, biohazardous waste disposal, OSHA standards, and case analysis; continuation of Embalming Theory I. Restricted to Funeral students. Prereq. - FUNS 210. Offered spring semester only.

FUNS 222 Clinical Embalming II (Cr1) (0:3)
A continuation of Clinical Embalming I. Restricted to Funeral students. Prereq. - FUNS 212. Additional course fees: $75.00. Offered spring semester only.

FUNS 231 Funeral Home Operations II (Cr2) (2:0)
Business principles related to pricing, promotion, personnel management, inventory control, computer usage, and merchandising & pricing of caskets, outer burial containers, and cremation urns, etc. Restricted to Funeral students. Prereq. - FUNS 201. Offered spring semester only.

FUNS 241 Field Study I (Cr1) (0:3)
This course provides a minimum of three hours per week of cooperative education in an approved funeral home, under the direction of a licensed funeral director; all phases of the embalming process. Restricted to Funeral students. Coreq. - FUNS 210. Additional course fees: $75.00. Offered fall semester only.

FUNS 242 Field Study II (Cr1) (0:3)
A continuation of Field Study I. Restricted to Funeral students. Prereq. - FUNS 241. Additional course fees: $75.00. Offered spring semester only.

FUNS 251 United States and Pennsylvania Funeral Law (Cr3) (3:0)
Basic business laws and principles associated with funeral contracts, negligence, tort liability, magistrates, state and local courts, disposition rights, probate, and Pennsylvania Funeral Director Law and the rules and regulations. Restricted to Funeral students. Offered spring semester only.

FUNS 255 Cosmetology & Restorative Art (Cr3) (2:3)
Aspects of general art as applied to funeral service, anatomical modeling, facial expressions, familiarization with tools, materials and techniques necessary to reconstruct human features, color in cosmetics, and development of special laboratory skills. Restricted to Funeral students. Prereq. - BIOS 160 or 254. Additional course fees: $85.00. Offered spring semester only.

FUNS 280 Funeral Service Education Comprehensive Review (Cr1)(1:0)
A course designed as a review of the entire curriculum, culminating with an exam designed to prepare students for the national board or various state board examinations. Courses must be taken during the final semester of course work. Restricted to Funeral students. Prereq. - FUNS201 and 210. Offered spring semester only.

FUNS 291 Special Studies in Funeral Service (Cr1)
See statement on Special Studies. Offered on demand. Restricted to Funeral students.

FUNS 292 Special Studies in Funeral Service (Cr2)
See statement on Special Studies. Offered on demand. Restricted to Funeral students.

FUNS 293 Special Studies in Funeral Service (Cr3)
See statement on Special Studies. Offered on demand. Restricted to Funeral students.

Geography (GEOG)

GEOG 101 World Geography (Cr3) (3:0)
An introduction to the location, distribution, and spatial organization of selected elements of culture, politics, economics, and environment that have relevance to major contemporary problems in various regions of the world. Also available through Online Learning. Core: SIT, D.

GEOG 121 Environmental Sustainability (Cr3) (3:0)
This course used scientific principles of ecology to analyze human impact on the natural environment. It examines population change, resource consumption, environmental modification, and their past and present relationships. With economics, politics, and culture providing context, the course explores possible paths to the sustainability of human society in the natural world. Course numbers ending with a G are Writing Intensive (WI). Also available through Online Learning. Core: SSHB, WI, D.

GEOG 140 Investigating Climate Change (Cr3) (3:0)
The course examines the evidence relevant to the questions of whether global climate is changing and if human behavior is a cause; the ways that potential climate change could be beneficial or harmful; the variation in the potential benefits and risks of climate change for different places and groups of people; the ways that individuals and society can respond to potential or actual climate change; the variety of reason why people disagree about climate change. Core: SSHB.

GEOG 150 Astronomy (Cr4) (3:2)
Astronomy is an introductory course designed for both science and non-science majors. It will provide a broad introduction to Astronomy, including observational cycles and systems as well as, important historical developments. Weekly laboratory exercises are an integral part of this course, and these investigations are designed for students who have algebra and are comfortable with basic mathematical principles. Also available through Online Learning. Core: SCI.

GEOG 151 Geography of the United States and Canada (Cr3) (3:0)
A study of the U.S. and Canada on a topical and regional basis, physical, economic, and cultural factors in the U.S. and Canada and geographical attributes of each region. Course numbers ending with G are Writing Intensive (WI). Core: SIT, D.

GEOG 210 Weather and Climate (Cr4) (3:2)
The course provides an introduction to meteorology and atmospheric sciences. It includes the structure and composition of the atmosphere and the elements that affect it, such as pressure, humidity and temperature. It examines the development of a variety of weather phenomenon, such as cloud

formation, fronts, storm system and severe weather, and reviews basic weather forecasting and analysis techniques. The course explores short and long-term climate processes and their impact on the environment and people. The course demonstrates how different regions of the world have been and will be impacted by climate change in the past, present and future. This is a laboratory science course and the concepts covered in lecture will be demonstrated with hands-on and technology-based activities using a variety of exercises, observations and experiments. Core: SCI, CT, D.

GEOG 271 Introduction to Geographic Information Systems (Cr4) (3:3)
This course teaches the fundamental concepts and basic functions of GIS (Geographic Information Systems), and their application to analyze and solve real-world problems. It is designed to introduce the student to the basic principles and techniques of GIS, the properties of GIS maps, and the structure of a GIS database. The lab material and course exercises will emphasize GIS data collection, entry, storage, analysis, and output using industry standard software. Students will develop basic software skills by working with industry standard tools to visualize geographic data, create maps, query a GIS database, and analyze data using common analysis tools. Core: SSHB.

GEOG 291 Special Studies in Geography (Cr1)
See statement of Special Studies. Offered on demand.

GEOG 292 Special Studies in Geography (Cr2)
See statement of Special Studies. Offered on demand.

GEOG 293 Special Studies in Geography (Cr3)
See statement of Special Studies. Offered on demand.

Geology (GEOL)

GEOL 201 Physical Geology (Cr4) (3:2)
The origin, development, structure and composition of the earth, and its surface and internal dynamics. Also available through Online Learning. Core: SCI.

GEOL 291 Special Studies in Geology (Cr1)
See Statement on Special Studies. Offered on demand.

GEOL 292 Special Studies in Geology (Cr2)
See Statement on Special Studies. Offered on demand.

GEOL 293 Special Studies in Geology (Cr3)
See Statement on Special Studies. Offered on demand.

GEOL 294 Special Studies in Geology (Cr4)
See Statement on Special Studies. Offered on demand.

Global Studies (GLBL)

GLBL 130 Introduction to Global Studies (Cr3) (3:0)
This course introduces students to ongoing challenges in social, cultural, environmental, economic, and political issues comprising the 21st century global society. Through this course, students gain an interdisciplinary synthesis of globalization through multiple perspectives and lenses, weighing what it is changing in the present and immediate future around the world. Core: D, SIT.

GLBL 160 Field Experience & Academic Research in Global Studies (Cr3) (2.5:0:2)
This course serves as an alternate cultural immersion experience for students in the global studies program who do not complete a three-credit study-abroad course. The primary focus of the course will be on academic research and experiential learning projects geared toward developing competencies consistent with engaged and responsible global citizenship. This course includes 30 hours of field experience. Prereq. - GLBL130. Core: D, SIT.

GLBL 230 Global Studies Capstone (Cr3) (2:0:3)
This course serves as the capstone or culminating immersive experience for students in the global studies program. The course consists of engaged learning experiences while building upon the concept of global citizenship and global studies theory. Students will work with local companies, organizations, or non-profit/service agencies with an international or global focus as part of a 45-hour field learning experience. Prereq. - GLBL130. Core: D, SIT.

Health (HEAL)

HEAL 150 Contemporary Health (Cr3) (3:0)
This course will provide a comprehensive look at the major concepts of health and wellness. Students will develop an understanding of a variety of topics that include behavior change, psychosocial health, managing stress, violence and abuse, making commitments, drugs, alcohol, tobacco, weight management, cardiovascular disease, the aging process, environmental health, consumerism and alternative medicine. Emphasis will be placed on incorporating knowledge gained throughout the course into the everyday lives of students. Also available through Online Learning.

HEAL 292 Special Studies in Health (Cr2)
See Statement on Special Studies. Offered on demand.

HEAL 293 Special Studies in Health (Cr3)
See Statement on Special Studies. Offered on demand.

HEAL 295 Special Studies in Health (Cr1)
See Statement on Special Studies. Offered on demand.

Heating, Ventilation, Air Conditioning and Refrigeration (HVAC)

HVAC 101 Fundamentals of HVAC/R I (Cr4) (3:2)
This is an introductory course in heating, ventilation, air conditioning and refrigeration (HVAC/R) technology. Topics will include heat transfer, refrigerant properties, the vapor-compression refrigeration cycle, service and piping techniques, EPA refrigerant handling regulations, dehydration and charging of systems, control components, basic residential control wiring, domestic refrigerator/freezers, and room air conditioners. Formerly HVAC 801. Pre or coreq.- EMEC 101 or instructor permission. Additional course fees: $80.00.

HVAC 102 Fundamentals of HVAC/R II (Cr3) (2:2)
This course is designed to provide a deeper understanding of the components and more rigorous application of the skills of heating, ventilation, air conditioning, and refrigeration (HVC/R) technology. Topic of lab exercise and study include commercial refrigeration, residential and commercial building systems, building automation, motor applications, and service/troubleshooting principles. Formerly HVAC 802. Prereq.- HVAC 101 and EMEC 101. Additional course fees: $50.00.

HVAC 104 Refrigeration System Troubleshooting (Cr3) (2:2)
Operation and servicing of commercial refrigeration and display cases; electrical and pressure operated devices, control adjustment, unitary refrigeration units, and component repair; heat loading, piping calculations, and system capacity analysis. Formerly HVAC 804. Prereq. - HVAC 102. Offered spring semester only. Additional course fees: $30.00.

HVAC 110 Print Reading for HVAC/R (Cr1) (1:0)
Interpretation of electrical and mechanical drawings commonly used in the field of heating, ventilating, air conditioning, and refrigeration. Formerly HVAC 810. Additional course fees: $35.00.

HVAC 120 Heating: Oil Systems (Cr2) (1.5:1.5)
Installation and maintenance of the key components of oil-fired hot air and hydronic heating systems; principles of combustion, sequence of operation, and hands-on troubleshooting in residential and light commercial applications. Formerly HVAC 820. Prereq. - EMEC 101. Offered fall semester only.

HVAC 121 Heating: Gas Systems (Cr2) (1.5:1.5)
Installation and maintenance of key components of gas-fired hot air and hydronic heating systems; principles of combustion, sequence of operation, and hands-on troubleshooting in residential and light commercial applications. Formerly HVAC 821. Prereq. - EMEC 101. Offered fall semester only.

HVAC 124 Heating: Gas, Oil, Solar Thermal, Air and Hydronic Systems (Cr4) (3:2)
This course covers the installation and maintenance of the key components of oil- and gas-fired hot air furnaces, hydronic systems, and Solar thermal heating. Topics covered include the principles of combustion, sequence of operation, traditional and alternative heat sources, energy efficiency testing, and equipment sizing. Lab exercises are designed to reinforce the practical knowledge of troubleshooting and service in residential and light commercial applications. Prereq. - EMEC101. Additional course fees: $40.00.

HVAC 140 Heat Pump Systems (Cr2) (1.5:1.5)
Practical study of the principles and applications of the heat pump used in heating and cooling systems; focus on heating and cooling cycle theory, control systems, and hands-on troubleshooting procedures. Formerly HVAC 840. Prereq. - EMEC 101 and HVAC 101. Additional course fees: $20.00.

HVAC 142 Geothermal Heat Pump System Design and Installation (Cr2) (2:0)
This course focuses on the design and installation of ground source heat pump systems based on the current IGSHPA (International Ground Source Heath Pump Association) standards. Upon successful completion of this course the student may take the IGSHPA Accredited Installers Examination. Topics covered include: selecting and designing a GSHP system for residential and light commercial buildings, ground construction techniques, pipe joining techniques, loop purging, pump and fluid selection, and commissioning/troubleshooting. Pre - or Coreq.- HVAC 140. Additional course fees: $20.00.

HVAC 150 HVAC Airflow and Distribution (Cr3) (3:1)
Practical study of the principles of airflow and psychometrics and how to achieve proper ventilation and distribution of air; basic duct design, psychometric calculations, fan installation and troubleshooting. Formerly HVAC 850. Prereq. - EMEC 101. Offered spring semester only. Additional course fees: $35.00.

HVAC 260G HVAC/R Technology Practicum (Cr2) (0:0) (Practicum 8)
This course is intended to provide actual work "shadowing" experience in the Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) industry with focused exposure to technical problems found in the field; preventative maintenance procedures; installation techniques; and general activities typically encountered. Capstone of this experience is to be presented in written and oral format and will include industry evaluation of student performance. Prereq.- ENGL101 and completion of 3 semesters of the HVAC/R Technology AAS degree program, or with instructor permission.

History (HIST)

HIST 103 Ancient and Medieval History (Cr3)(3:0)
Survey of the evolution of Western society from its origins in the Near East, through the significant civilizations of Egypt, the legacy of the Greco-Roman world, the shaping of the medieval world, the foundations of Europe, to the intellectual advances of the Renaissance. It is an interdisciplinary study emphasizing themes in history, religion, the humanities, and both social and natural science. Core: SIT. Also available through Online Learning.

HIST 113 American History I (Cr3) (3:0)
American history from the age of discovery/colonization to the Reconstruction Era; investigates the interaction of change and human experience over time; covers specific individuals, events, and public policies, as well as the relationship between cultures, institutions/systems, and human experience. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Approved for the Honors Program. Core: SIT, D.

HIST 121 The Black Experience (Cr3) (3:0)
This course closely examines the influence that people of African descent have had on the development of the United States. Chronologically it begins with the African origins of the black population and traces their experiences through every major period in United States history from colonial times to the present. The course will also explore the rich cultural contributions made by African Americans in the areas of music, art, religion, and literature during such periods at the Harlem Renaissance, Black Power Movement, and the contemporary Hip Hop era. The schools of thought we will encounter range from integration and assimilation to Pan Africanism and civil disobedience. The teaching materials draw on the latest scholarship in history and related disciplines to help students understand the impact of gender, class, and race on historical events. Course numbers ending with G are Writing Intensive (WI). Core: D, SIT.

HIST 123 African Civilizations (Cr3) (3:0)
This is a survey course of several major African Civilizations. Civilizations chosen may vary by instructor but will normally include the classic cultures of Nubia, Kemet, Ghana, Mali, Songhai, Monomotapa, Yoruba, Asante, and Zulu. The period covered is from antiquity to the 19th century. Focus is on the cosmology, worldview, and culture of Africans and the impact of cross- cultural contacts. The course will also include a cursory look at colonial and post-colonial Africa. CORE: SIT

HIST 140 Modern Chinese History (Cr3) (3:0)
This survey class will cover China's history from the founding of the last imperial dynasty to the period of economic reform following the death of Mao Zedong. Students will learn about China's long struggle to adapt traditional society to the modern world through years of colonialism, internal upheaval and war. Core: SIT, D.

HIST 153 Foundations of Modern European History, 1300-1815 (Cr3)(3:0)
From the breakdown of the medieval feudal synthesis to the emergence of the modern world, this course cover the Renaissance, Reformation, Counter-Reformation, the rise of Absolutism, the Enlightenment and the beginnings of the Industrial Revolution. Students who have taken HIST 152 may not take this course. Course numbers ending in G are Writing Intensive (WI). Core: SIT. Also available through Online Learning.

HIST 163 American History II (Cr3)(3:0)
American history since the Reconstruction Era; investigates the interaction of change and human experience over time; covers specific individuals, events, and public policies, as well as the relationship between cultures, institutions/systems and human experience. Also available through Online Learning. Approved for the Honors Program. Core: SIT.

HIST 166 Civil War and Reconstruction (Cr3)(3:0)
Political, social, economic, and military aspects of the Civil War and Reconstruction, from 1845-1877. Course discusses systemic American racism, slavery, sectionalism, and the causes of the Civil War; wartime activities of the Union and Confederacy; leading personalities; issues and policies of the Reconstruction era and the Compromise of 1877. Course numbers ending with G are Writing Intensive (WI). Core: D, SIT.

HIST 167 Vietnam (Cr3)(3:0)
The Vietnam War and its political context, and the basic themes in Vietnamese, French, and U.S. history and culture that helped determine the military and political outcomes. Also available through Online Learning. Core: SIT.

HIST 168 History of the Middle East (Cr3)(3:0)
This course explores the development of the modern Middle East, paying particular attention to the region's multiple cultures; the rise, spread, and influence of Islam; the challenges of imperialism; and the economic, social, and political changes that have occurred in the region since the 7th Century. Analysis will be made of the Middle East's influences on the West, and the shifting power relationships that have caused extensive conflict and turmoil among its people. Course numbers ending with G are Writing Intensive (WI). Core: SIT, D.

HIST 173 Modern European History, 1815 to Present (Cr3)(3:0)
Post-Napoleonic Europe, the revolutions of 1898, the unifications of Germany and Italy, Imperialism, the causes and results of World War I, the Depression and the ideologies of the 20th century and World War II. The post-war struggle between the super-powers will also be treated. Students who have taken HIST 172 may not take this course. Course numbers ending with G are Writing Intensive (WI). Core: SIT, CT, D.

HIST 210 History of Modern Science 1859 - Present (Cr3) (3:0)
An interdisciplinary overview of the greatest scientific discoveries in history and the people who made them from the year 1859 to the present. Prereq. - ENGL 101. Core: SIT.

HIST 211 History of Pennsylvania (Cr3)(3:0)
This course will focus on Pennsylvania history from pre-colonization to the present day. It will examine events specific to the history of the Commonwealth, the state's role in the nation, and national and local events with impact on the state. The course will cover state political, economic and social issues and how they have evolved with the history of the state. Pre- or coreq. - HIST 113 or 163. Core: SIT. Also available through Online Learning.

HIST 291 Special Studies in History (Cr1)
See Statement on Special Studies. Offered on demand.

HIST 292 Special Studies in History (Cr2)
See Statement on Special Studies. Offered on demand.

HIST 293 Special Studies in History (Cr3)
See Statement on Special Studies. Offered on demand.

Hospitality (HOSP)

HOSP 101 Introduction to the Hospitality Industry (Cr3)(3:0)
Survey of the hospitality and tourism industry; the industry as a systems network; the major industry sectors; retail and wholesale travel agency, lodging and accommodations, food and beverage.

HOSP 105 Enhancing Guest Service (Cr3)(3:0)
This course is designed to provide the student with an understanding of the importance of guest service in a service economy and the critical necessity of service in hospitality management. Students will learn how to create value for guests by building guest loyalty. Specific skills will be enhanced including positive attitude projection, anticipation of and exceeding customer expectations and management tools that will help inspire others to offer excellent guest service.

HOSP 111 Food and Beverage Management (Cr3) (3:0)
This course is designed to provide students with an understanding of the hospitality food service industry, it's variety of operations/outlets and how to gain the skills to successfully manage these operations/outlets. Areas of study include an overview of food and beverage outlets, food service marketing, menu analysis, menu cost and pricing strategies. Analysis will be done on service standard operating procedures, types of service, food and beverage sourcing, and beverage management. Offered in Spring semester only.

HOSP 130 Convention Services and Catering Management (Cr3) (2:2)
This course focuses on the foundation of convention services which includes reaching and servicing the group meetings and special event markets. The process of selling space, functions and events to groups will be covered. The course will also cover the management and marketing of catering on and off premises, including special event functions. The planning, financing, organizing, marketing and operations of catered events will be discussed. Students apply learning through the participation in 32 hours of on-campus catered events. Formerly FOOD 130. Pre- or coreq- HOSP 101 and HOSP 105.

HOSP 201 Strategic Leadership in Hospitality (Cr3) (3:0)
This course is designed to acquaint students with the leadership, management, supervision and quality issues facing today's hospitality industry. It covers the organization and management of hospitality operations. Offering in Spring semester only. Prereq. - HOSP 101 and HOSP 105. Core: D (Hospitality programs only)

HOSP 210 Human Resources Management for the Hospitality Industry (Cr3) (3:0)
Recruiting, selection, orientation, training and development, performance appraisals, compensation, discipline methods, and development of the skills to be a successful manager within the culturally diverse hospitality industry. Also available through Online Learning. Prereq. - HOSP 101 and HOSP 105.

HOSP 212 Hospitality Financial Reporting (Cr3) (3:0)
This course will provide an understanding of the principles of finance and accounting and to comprehend the money implications of decisions in hospitality.Basic relevant financial concepts and financial tools are introduced to improve business decision making, including how to read balance sheets, income statements, profit and loss, cash flow statements, critical ratios and other financial measurements and to interpret what the numbers mean. Offered spring semester only.Prereq. - HOSP 101 and HOSP 105.

HOSP 215 Hospitality Sales and Marketing (Cr3) (3:0)
The course is designed to provide students with an understanding of marketing and sales, as they relate to the major decisions hospitality marketers face in balancing objectives and resources against the needs and opportunities in the global marketplace. The course focuses on the hospitality markets and products through a creation of a marketing plan. The increased role of hospitality technology to improve hospitality sales will also be addressed. Prereq. - HOSP101 and 105. Also available through Online Learning.

HOSP 221G Hospitality Management Practicum (Cr3) (0.5:0:15)
Structured work experience in selected hotels, resorts or restaurants; meeting and event planning venues; and adventure tourism facilities. Minimum of 225 contact hours. Students are required to function in a variety of workstations to reinforce learned classroom/lab skills. The student will be required to submit evaluations of his/her work. The application of hospitality management principles to the work environment serves as a valuable learning experience for the student. This course may be taken four times for credit. Prereq.: HOSP 101, 105, 111, 201, 210, 215 and ENGL 101. Core: WI.

HOSP 223 Disney College Program (Cr0)
Students live and work at Walt Disney World and learn current business practices, customer service, leadership skills, communication skills, workforce diversity, and corporate trends. While there, students must also take at least one 3 credit Disney course, which is accredited by the American Council on Education (ACE). Administrative fee: $50. Prereq. - Currently enrolled at NCC, have completed a minimum of 12 college credits, have a minimum cumulative GPA of 2.0.

HOSP 224 Disney Advanced Internship (Cr0)
Students work full time at Walt Disney World as part of an Advanced Internship designed to give them career-related experience in their chosen field, or one that they are considering. A variety of fields are available such as: accounting and finance, marketing and sales, chemistry, conservation education, veterinary science, biotechnology, library science, human resources, and hospitality to name a few. Administrative fee: $50. Prereq. -Must be currently enrolled at NCC, in good academic standing, meet all the requirements for the particular Advanced Internship (such as experience and program of study), successfully participate in competitive selection process with Disney College recruiting staff, and be approved by NCC Career Services Director. Some Advanced Internships require prior Disney World Experience (HOSP 223).

HOSP 293 Special Studies in Hospitality Management (Cr3)
See Statement on Special Studies on page 12. Offered on demand.

Hotel Management (HOTL)

HOTL 110 Hospitality Law (Cr3) (3:0)
The course will introduce students to the operations of the legal system and practical knowledge of law as it pertains to the hospitality industry. A case study approach will be used to understand restaurant, hotel, and travel laws and regulations that influence business and management decisions in the hospitality industry. The course is designed to provide the student with the practical knowledge of law and the operations of the legal system. Also available through Online Learning.

HOTL 140 Club Management (Cr3) (3:0)
This course is a study of club management, to include country, professional, private, city, athletic and other forms of clubs. Concepts covered include the organizational structure of clubs, board of directors, membership requirements, service excellence, leadership, human resources, strategic and financial management, food and beverage operations, club marketing and computer systems.

HOTL 150 Resort Management (Cr3) (3:0)
This course highlights the operation and management of resort properties. Beginning with the resort concept and the historical development of resorts, details are presented in planning, development, management, marketing and financial aspects that deal with the unique nature of resort business. Analysis of management systems and methods for development of full-service resorts are presented, along with comparison of specialized requirements for different types of resorts based on location, climate, activities, and life-style.

HOTL 160 Introduction to the Gaming Industry (Cr3) (3:0)
This course provides an overview of casino management with an emphasis on the analysis of the gaming industry and its trends, a casino's interface with the hotel, organizational structure and terminology. Students will learn the history of gaming, various types of games, daily casino operations, casino marketing and financing, government regulations of gambling and the future development of the industry. Formerly CASN 101. Offered fall semester only.

HOTL 207 Rooms Division Management (Cr3)(3:0)
Practical applications of front office management, housekeeping and facilities management; utilization of property management software which includes reservations, scheduling and the night audit. Prereq. - HOSP 101. Offered spring semester only.

Humanities (HUMA)

HUMA 121 The American Work Experience (Cr3)(3:0)
The American Work Experience is an interdisciplinary humanities course using history, literature and the arts, and other cultural studies to deepen the student's knowledge and understanding of over two centuries of Americans at work. Course numbers ending with G are Writing Intensive (WI). Core: AH, D.

HUMA 140G Introduction to Women and Gender Studies(Cr3) (3:0)
This course is an interdisciplinary introduction to Women and Gender Studies from a humanistic perspective using art, film, history, literature, music, and popular culture. Prereq. - ENGL101. Course numbers ending with G are Writing Intensive (WI). CORE: AH, D.

HUMA 150 Nature of the Environment (Cr3) (3:0)
This course provides an introduction to humanity's complex relationship with the natural world and addresses philosophical theories and ethical issues regarding humankind's responsibility to care for the environment. Topics include environmental ethics and politics, rights of non-humans, ecofeminism, climate change, sustainability, eco-criticism and the idea of wilderness. Pre- or coreq.- ENGL 101. Core: AH, D.

HUMA 250G Research Methods in the Social Sciences (Cr3) (3:0)
This class is an overview of scientific research methods used in the social sciences. Social sciences include disciplines in which we examine people or collections of people, and their individual or collective behaviors, such as psychology, sociology, and political science. In this class we will discuss not only research methods (such as empirical data collection and analysis) but also the research process from start to end, including the steps of scientific inquiry, and the ethics involved. Restricted to students in the Honors Program. Prereq. - ENGL101 and either POLS101 or PSYC103 or SOCA103. Core: SSHB, WI

Interdisciplinary Studies (INTS)

INTS 101 Critical Thinking (Cr3) (3:0)
A sequential study of thinking and reasoning abilities, emphasizing active, independent, and comprehensive thinking to solve problems, analyze, infer, and evaluate issues, reason critically, and understand and apply concepts.

INTS 200 Introduction to Study Abroad (Cr1) (1:0)
This one-credit course is designed to help students develop skills and perspectives to enable them to get the most out of their international experience. The course offers the student an opportunity to study and experience the culture of another country/region with an emphasis on getting to know the history, architecture, art, literature, geography and political systems and its place in the global system. The course includes pre-trip planning and lectures, study and research during the trip, and post-trip presentations. In addition, it will provide you with the information about the study abroad process and the practical aspects of studying abroad. This course may be taken three (3) times for credit.

INTS 201 Implementing Sustainable Energy Systems in Developing Communities (Study Abroad) (Cr3) (3:0)
This interdisciplinary sustainable energy course will provide students with technical skills, economic and political background, and analysis and design skills that will help them to apply knowledge gained about alternative and renewable energies to both local and global issues. Students will be exposed to a broad range of technical and social/political disciplines necessary to understand the sources of renewable energy, technical and economic decisions involved in using alternative energy sources and the potential impacts of bringing power to to developing communities. The course will include an in-

community experience which involves construction and installation of a sustainable energy system. Basic language and technical instruction will be provided. Prereq.- ENGL101 and approval of the instructor. Core: SIT, D.

INTS 202 The Architecture of the City: Classic to Contemporary (Cr3) (3:0)
This interdisciplinary course focuses on the Architecture of a host city or cities. A specific host city or cities will be selected for each semester that the course is offered. An example host city could be Barcelona, Spain or Paris, France or Rome, Italy. This travel study course is taught primarily on-site and includes site tours and in-person observations to provide an understanding of the architecture of the host city. Students will experience architecture from several time periods that have influenced design throughout the world. Representative projects include monuments, outdoor spaces, and museums, civic and religious buildings, along with historic and contemporary structures. The course will include a study of the architectural design, style and urban context. Students will be required to prepare on-site sketches or photography or video and reflective journaling about each day's experience while abroad. Core: SIT

INTS 250 Study Abroad (Cr3) (3:0)
This course is designed to help students integrate international experience within their course of study. Students will explore the social, cultural, political, historical, geographic and economic significance of the specified country and its place in the global system. A review of the various socio-cultural, economic and political systems and structures will provide the basis for critically examining the challenges facing the specified country. Students will explore the social, political, geographic and economic impact of seeking peaceful resolutions to internal and external challenges. The course includes pre-trip planning and lectures, study and research during the trip, and post-trip presentations. This course may be taken three (3) times for credit. CORE: SSHB.

INTS 291 Special Studies in Interdisciplinary Studies (Cr1)
See Statement on Special Studies. Offered on demand.

INTS 292 Special Studies in Interdisciplinary Studies (Cr2)
See Statement on Special Studies. Offered on demand.

INTS 293 Special Studies in Interdisciplinary Studies (Cr3)
See Statement on Special Studies. Offered on demand.

INTS 294 Special Studies in Interdisciplinary Studies (Cr4)
See Statement on Special Studies. Offered on demand.

Interior Design (INDS)

INDS 100 History of Interior Design and Furniture (Cr3) (3:0)
Survey of the development of interior design and furniture styles form antiquity to the present; history of interior space, architectural details and furniture; social, political, economic and technological perspectives as they relate to the interior aesthetic of each period; lectures supported with visual slides; one field trip.

INDS 105 Introduction to Interior Design (Cr3) (2:2)
Outline of period styles, decoration as related to architecture, analysis of line, character of form, and expression. Characteristics of the historical and modern periods in interior design and furniture. The work of the past and its modern adaption. A survey of design; architectural, industrial, and fashion, with particular emphasis on furniture and design. Formerly ARCH 105.

INDS 121 Graphics and Presentation Techniques for Interior Designers (Cr3) (2:2)
Continued development of the graphic language of architecture with emphasis on interiors. Hand skills are developed as orthographic drawings are extended to the format language of architecture and developed into formal plans, elevations, sections and details. Computer and hand skills continue to be incorporated as tools in the design process. Emphasis on color theory and color application is included. Presentation techniques will also be an emphasis, students will develop both graphic and oral presentation skills. Prereq.- ARCH 101 and 110 with a C or better; Coreq.- ARCH 150. Offered spring semester only.

INDS 130 Interior Materials and Structure (Cr3) (2:2)
Investigation, analysis, evaluation, history, manufacturing, and application of decorative textiles, wall and floor coverings, and accessories. Proper relationships of line, form, color, and texture. Formerly ARCH 125. Offered spring semester only.

INDS 160 Bath and Lighting Design (Cr3) (3:0)
Investigation of bath design through aesthetics, materials and ergonomic considerations; space analysis, programming and planning; design projects including bath layouts, materials, counters, and storage; wall and floor surface material; lighting design as it relates to baths; furniture, cabinetry, light fixtures, and space planning. Prereq. - INDS 121 with C or better. Offered spring semester only.

INDS 165 Kitchen and Lighting Design (Cr3) (3:0)
Investigation of kitchen design through aesthetics, materials and ergonomic considerations; space analysis, programming and planning; design projects including kitchen layouts, materials, counters, storage and fixtures; wall and floor surface material; lighting design as it relates to kitchens; furniture and cabinetry design and space planning as it relates to the kitchen environment. Prereq. - INDS 121 with C or better. Offered fall semester only.

INDS 200 Professional Internship (Cr3) (0:0:160 practicum)
General office experience giving the student a broad exposure to the practice environment; student work under the direction of a design professional to gain hands-on experience applying knowledge and skills in the practice setting. Gives students the opportunity to apply practical office experience for credit, particularly students already working in the field.

INDS 225 Residential Interior Design Studio (Cr3) (2:2)
Assembling and harmonizing furniture and decorative objects from the point of view of utility and beauty. Analysis of furniture arrangement and room

composition, draperies and window treatments, and lighting. Practical problems illustrating the requirements of certain types of residential rooms. Incorporation of the computer as a design tool. Preparation of written research and design position papers on assigned design problems and their solutions. Formerly ARCH 225. Prereq. - INDS 121 with C or better. Offered fall semester only.

INDS 255 Commercial Interior Design Studio (Cr3) (3:2)
The application of the design fundamentals and trade information to problems of contract interior design. Emphasis on space analysis and planning, coordination of furnishings and equipment, design function, and aesthetics of interior space in relation to individual and group needs. Incorporation of the computer as a design tool. Design projects, the procedure and development of a design project from start to completion. Preparation of written research and design position papers on assigned design problems and their solutions. Formerly ARCH 255; only one may be applied to graduation. Prereq. - INDS 105, ARCH 101, ARCH 110; Coreq.- ARCH 265, INDS 160. Offered spring semester only.

Journalism (JOUR)

JOUR 101 Journalism and Society (Cr3) (3:0)
History and current climate of journalism in America; ethical problems in the practice of journalism using a case study approach; principal public criticism of news media, roles and functions of journalism in a multicultural society. Also available through Online Learning. Core: AH.

JOUR 102 News Editing (Cr3) (3:0)
Editing copy, writing headlines and photo captions; understanding news values, libel law and ethical problems in the management of news. Also available through Online Learning.

JOUR 103 Newswriting (Cr3) (2:2)
Fundamentals of newswriting and news gathering; finding stories, covering community events, interviews and beat reporting; news values, legal and ethical issues. Formerly ENGL 103. Pre- or coreq. - ENGL 101. Also available through Online Learning.

JOUR 104 Media Publication (Cr4) (2:4)
This course will introduce students to visual communication through web and digital publishing, including the use of a website content management system, desktop publishing software application, and image-editing software.

JOUR 110 Journalism Practicum (Cr1) (0:2)
Students in this course will work on the print and web versions of the student newspaper, acting in various capacities that may include reporting, editing, blogging, designing layouts, and supervising staff. This course may be taken three times for credit. Prereq. - JOUR102.

JOUR 201G Feature Writing (Cr3) (3:0)
This course covers the fundamentals of feature writing, including finding story ideas, conducting research and interviews, and developing strong storytelling skills using an array of strategies, techniques and tools to engage an audience. Formerly ENGL 105. Prereq. - ENGL101. Also available through Online Learning.

JOUR 202 Social Media for Writers (Cr3) (3:0)
Students will analyze and use current and emerging social media platforms and multimedia tools to tell stories and learn best practices for building an audience. Prereq. - ENGL101. Also available through Online Learning.

JOUR 203G Writing for Public Relations (Cr3) (3:0)
This course is an introduction to the principles of public relations and marketing communications, applying journalistic style to the preparation of position papers, backgrounders, fact sheets, biographical sketches and news releases. Prereq. - JOUR 101, 103 (for Journalism majors) or ENGL 101C (for other majors). Also available through Online Learning.

Library Technical Assistant (LIBT)

LIBT101 Introduction to Library Service (Cr3)(3:0)
This course introduces the history, function, organization, and services of various types of libraries. It covers library terminology and processes essential to public service. Available through Online Learning.

LIBT 115 Reference Resources and Services (Cr3) (3:0)
This course introduces students to reference services and resources available in small public libraries. Students will explore the evaluation, selection and use of general and specialized reference tools and the principles and practice of providing reference services.
Available through Online Learning.

LIBT 203 Technical Services (Cr3) (3:0)
This is an introduction to the elements of library technical services, including cataloging, classification, acquisitions, serials management, preservation, outsourcing and collection development and management. Students will apply learned skills to perform collection analysis and to acquire, organize and manage both print and non-print materials. Available through Online Learning.

LIBT 207 Library Management (Cr3) (3:0)
This course introduces management principles for a small library. Topic include: administration, budgeting, policymaking, and partnerships related to library personnel, facilities, collections and services. Completion of LIBT101 is recommended prior to taking this course. Available through Online Learning.

LIBT 209 Computers in Libraries (Cr3) (3:0)
This course is an introduction to the use of computers and technology in libraries, including Integrated Library System, electronic information resources, the Internet, websites and technology administration. Students will prepare to manage technology within the library setting. Completion of LIBT101 is recommended prior to taking this course. Available through Online Learning.

LIBT 253 Literature for Children and Young Adults (Cr3) (3:0)
This course provides historical coverage of literature for children and young adults and includes criteria for the evaluation and presentation of books in all genres. The course will cover administration of children's services specifically planning, collection development, and programming. The course will also discuss issues and trends in children's services including multiculturalism, censorship, and technology. Available through Online Learning.

LIBT 291 Special Studies in Library Technical Assistant (Cr1)
See Statement on Special Studies. Offered on demand.

LIBT 292 Special Studies in Library Technical Assistant (Cr2)
See Statement on Special Studies. Offered on demand.

LIBT 293 Special Studies in Library Technical Assistant (Cr3)
See Statement on Special Studies. Offered on demand.

Massage Therapy (MASG)

MASG 101 Massage Therapy Procedures I (Cr4) (3:3)
This course will provide students the fundamentals of massage therapy for table and chair massages. Students will learn hands-on to apply basic massage techniques to the entire body, body mechanics, draping, lotions, as well as palpating muscle and skeletal structures. Additionally, practice management topics such as ethic, legal issues, infection control, documentation, business practices and professional development will be reviewed. Pre- or coreq.- BIOS 204. Additional course fees: $63.00.

MASG 102 Massage Therapy Procedures 2 (Cr5) (3:6)
Students will continue to deepen their knowledge of the discipline through focused study of the theory and assessment of neuromuscular conditions. The course includes an extensive review of techniques specific to deep tissue massage, including trigger point therapy, friction techniques, myofascial techniques, and stretching. Students will also be introduced to multiple modalities including, but not limited to, massage for pregnancy, sports, geriatric, and pediatric. Prereq.- MASG 101. Pre- or coreq.- BIOS 254.

MASG 210 Massage Therapy Procedures 3 (Cr4) (3:3)
This course will prepare students to integrate a basic understanding of pathologies, diseases, pharmacology and pain management to appropriately tailor massage treatment. Disease awareness, treatment planning, indication/contraindications for therapy and Infection Control will be stressed. In the clinic setting, student practice and refine techniques in a professional setting while providing massages to a variety of clients from across the lifespan. The student works with clients in a supervised environment to develop technique, professionalism, communication skills and self-confidence. Students will be required to complete a minimum of two hours of supervised hands-on table massage as well as 14 hours of unsupervised table/chair massage of various lengths and clients of various ages, gender and wellness. Prereq.- MASG 102 and HEAL 150.

Mathematics (MATH)

MATH 020 PreAlgebra (Cr3) (3:0)
Review arithmetic operations on whole numbers, fractions, decimals, and integers. Introduces algebraic notation: solution of algebraic equations, inequalities, and applications. This course is intended to prepare students for MATH 022, Elementary Algebra. Also available through Online Learning.

MATH 022 Elementary Algebra (Cr4) (4:0)
First-year algebra after an arithmetic review. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH 020 with a C or better. Also available through Online Learning.

MATH 026 Intermediate Algebra (Cr3) (3:0)
Functions and graphs, linear equations and determinants, factoring, exponents, inequalities, systems and theories of equations, quadratic equations. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH022 with a C or better. Also available through Online Learning.

MATH 028 Elementary and Intermediate Algebra Combined (Cr5) (5:0)
This course combines Elementary and Intermediate Algebra in one semester. Using both real and complex numbers, topics include: solving linear, polynomial, ration, absolute value, and radical equations, inequalities, graphing functions, problem solving, solving systems of linear equations, operations using and simplifying exponents, factoring polynomials, simplifying rational and radical expressions. Appropriate competence as outlined in the Mathematics Placement policy.

MATH 103 Applications in Mathematics (Cr3) (3:0)
Applications of mathematics emphasizing problem solving and reasoning. Core: QL (A.A.S. only). Also available through Online Learning.

MATH 118 Foundations of Mathematics I (Cr3) (3:0)
This course consists of problem solving and inductive reasoning, sets, functions, numeration systems, integers, rational numbers, number theory, decimals, percents, real numbers and proportional reasoning. This course is based on state and national mathematics standards and is restricted to all NCC Education majors. Prereq.- Appropriate competence as outlined in the Mathematics Placement policy or MATH022 with a C or better. MATH 118 and MATH120 may not both count toward the same degree. Also available through Online Learning. Core: QL (Middle Level Education, Early Childhood Education & Special Education only).

MATH 119 Foundations of Mathematics II (Cr3) (3:0)
This course is a continuation of MATH 118 that includes probability and statistics, elementary geometry, geometric constructions, geometric transformation, tessellations, nets, and measurement. This course is based on state and national mathematics standards and is restricted to all NCC Education majors. Prereq.- Appropriate competence as outlined in the Mathematics Placement policy or MATH022 with a C or better. MATH 119 and

MATH120 may not both count toward the same degree. Also available through Online Learning. Core: QL (Middle Level Education & Early Childhood Education only).

MATH 120 Nature of Mathematics (Cr3) (3:0)
This course is not designed for science or business majors. Specific topics include financial literacy, number systems, estimation, unit conversions, essential statistical literacy, geometry and various problem solving. MATH118 and 120 nor MATH119 and 120 may not count for credit towards the same degree. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH022 with a C or better. Also available through Online Learning. Core: QL.

MATH 140 College Algebra (Cr3) (3:0)
Concepts of algebra, graphs and functions, exponential and log functions, systems of inequalities and equalities, complex numbers. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH026 or 028 either with a C or better. Also available through Online Learning. Core: QL.

MATH 145 Trigonometry (Cr3) (3:0)
Angles, trig functions, trig identities, solution of triangles, complex numbers. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH 140 with a C or better. Also available through Online Learning. Core: QL.

MATH 150 Introductory Statistics (Cr3) (3:0)
This course introduces students to descriptive statistics, probability, correlation and regression, normal distribution, sampling distributions, confidence intervals, and hypothesis testing. Prereq.- Appropriate competence as outlined in the Mathematics Placement policy or MATH022 or 028 either with a C or better. Approved for the Honors Program. Also available through Online Learning. Core: QL.

MATH 160 Pre-Calculus (Cr4) (4:0)
This course covers topics of algebra, equations, inequalities, graphs, functions, polynomial and rational functions over the real and complex numbers, exponential and logarithmic functions, a comprehensive review of trigonometry, and some aspects of analytic geometry. Prereq.- Appropriate competence as outlined in the Mathematics Placement policy or MATH140 with a C or better. Core: QL. Also available through Online Learning.

MATH 165 Applied Calculus (Cr3) (3:0)
Functions, limits, derivatives and their application, integration, and application of the definite integral. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH140 with a C or better. Core: QL. Also available through Online Learning.

MATH 175 Calculus I with Review (Part 1) (Cr4) (4:0)
This course along with MATH 176 reviews both algebra and trigonometry throughout the study of calculus. The completion of both MATH 175 and 176 satisfies the MATH 180 requirement. Only MATH 175 and 176 or MATH180 may be applied to the degree program. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH140 with a C or better. Core: QL. Offered fall semester only.

MATH 176 Calculus I with Review (Part 2) (Cr4) (4:0)
This course along with MATH 175 continues review of both algebra and trigonometry throughout the study of calculus. The completion of both MATH 175 and 176 satisfies the MATH 180 requirement. Only MATH 175 and 176 or MATH180 may be applied to the degree program. Prereq. - MATH 175 with C or better. Core: QL. Offered spring semester only.

MATH 180 Calculus I (Cr4) (4:0)
Limits of functions, derivatives, chain rule, implicit differentiation, extrema, indefinite and definite integration; Fundamental Theorem of Calculus, transcendental functions and applications. Prereq. - Appropriate competence as outlined in the Mathematics Placement policy or MATH145 or 160 either with a C or better. Also available through Online Learning. Core: QL.

MATH 181 Calculus II (Cr4) (4:0)
Techniques and applications of integration, L'Hopital's Rule, improper integrals, solving differential equations using separation of variables, sequences and series, conics, parametric equations and polar coordinates. Prereq. - MATH 176 or 180 either with C or better, or score of 4 or 5 on AP Calculus AB or BC test. Core: QL.

MATH 191 Special Studies in Mathematics (Cr1)
See Statement on Special Studies. Offered on demand.

MATH 192 Special Studies in Mathematics (Cr2)
See Statement on Special Studies. Offered on demand.

MATH 193 Special Studies in Mathematics (Cr3)
See Statement on Special Studies. Offered on demand.

MATH 194 Special Studies in Mathematics (Cr4)
See Statement on Special Studies. Offered on demand.

MATH 202 Discrete Math (Cr3) (3:0)
An introduction to mathematical discrete structures and algorithms will be presented. Topics include: sets, logic, proof techniques, mathematical induction, combinatorics, relations, graph and trees. Prereq. - MATH 176 or 180 either with C or better. Offered spring semester only.

MATH 210 Calculus III (Cr4) (4:0)
Vectors and the geometry of space, vector-valued functions, partial and directional derivatives, multiple integration, vector analysis, and Green's Theorem, the Divergence Theorem and Stokes' Theorem. Prereq. - MATH 181 with C or better. Core: QL.

MATH 211 Differential Equations (Cr4) (4:0)
This is an introductory course to Ordinary Differential Equations (ODE), their solutions and applications. Some of the topics to study: solving

differential equations by separations of variable, substitutions methods, numerical methods, exact differential equations, differential equations of higher order, linear system of differential equations, Laplace transform methods, power series, linear systems, matrices, vector space, eigenvalues and eigenvectors. Prereq. - MATH 210 with C or better. Core: QL.

MATH 291 Special Studies in Mathematics (Cr1)
See Statement on Special Studies. Offered on demand.

MATH 292 Special Studies in Mathematics (Cr2)
See Statement on Special Studies. Offered on demand.

MATH 293 Special Studies in Mathematics (Cr3)
See Statement on Special Studies. Offered on demand.

MATH 294 Special Studies in Mathematics (Cr4)
See Statement on Special Studies. Offered on demand.

Medical Assistant (MDAS)

MDAS 101 Medical Assistant Techniques I (Cr5) (3:6)
The course will provide an introduction to the clinical role of the Medical Assistant, and will include basic skills necessary to assist the physician and provide direct patient care in the medical office setting. Basic skills will include obtaining a patient history, taking vital signs, administering oral, liquid and topical medications. Telephone triage skills, documentation, infection control principles, use of an autoclave, and assisting with minor office procedures and surgery will also be covered. Restricted to Medical Assistant students. Pre- or Coreq. - BIOS 130, OFAD 101 and OFAD 154. Additional course fee: $13.00

MDAS 105 Medical Assistant Techniques II (Cr5) (3:6)
This course focuses on advanced level clinical skills common to medical offices and clinics. The enhanced role and function of the medical assistant will focus on legal aspects, ethical aspects, patient education, CLIA waived testing, Point of Care Testing, Rapid Response Teams for emergencies, Electrocardiography, phlebotomy, respiratory and physical therapy and rehabilitation therapeutic procedures. Advanced pharmacology will focus on parenteral calculations, preparations, and administration, with a special component on immunizations throughout the lifespan. Restricted to Medical Assistant students. Prereq. - MDAS 101. Pre- or coreq. - OFAD 172 and OFAD240.

MDAS201 Medical Assisting Clinical Externship (Cr4)(2:2)
This course provides an opportunity for the student to integrate theory and practicum into reality practice while working in a medical environment. Medical assisting skills and knowledge will increase in skill proficiency learned in MDAS 101 and 105. This course offers clinical experiences in diagnostic procedures, and other competencies delegated to the entry-level medical assistant with consideration of the ethical and legal implications. This course includes a capstone medical assistant seminar component to link theory to practice to reality. Restricted to Medical Assistant students. Prereq.- MDAS 105.

Modern Languages (MDLA)

MDLA 102 Elementary French I (Cr3) (3:0)
This introductory course focuses on listening, speaking, reading and writing in French. Vocabulary and basic grammatical structures are emphasized, and cultural elements are fully integrated in all aspects of the course. This course is designed for students who have not previously studied French and is not appropriate for native French speakers. Core: AH, D.

MDLA 103 Elementary Spanish I (Cr3) (3:0)
Introductory course; instruction and practice in listening, speaking, reading and writing in the target language; emphasis on vocabulary and basic grammatical structures; cultural elements fully integrated in all aspects of the course; designed for students who have not previously studied Spanish. Not appropriate for native Spanish speakers. Also available through Online Learning. Core: AH, D.

MDLA 105 Elementary Chinese I (Cr3) (3:0)
This is an introductory course which includes instruction and practice in listening, speaking, reading, and writing in the Chinese language. Emphasis is placed on vocabulary and basic grammatical structures. Cultural elements are fully integrated in all aspects of the course. The course is designed for students who have not previously studied Chinese. It is not appropriate for native Chinese speakers. Core: AH, D.

MDLA 107 Elementary Arabic I (Cr3) (3:0)
This course is an introduction to the Arabic language. The course stresses the active use of the language whereby students develop proficiency in the four language skills (speaking, listening, reading, and writing.) This course is for beginners and not appropriate for native Arabic speakers. Core: AH, D.

MDLA 112 Elementary French II (Cr3) (3:0)
This course is a continuation of Elementary French I. Emphasis will be placed again on developing proficiency in the four skills essential to communicative language learning: listening, speaking, reading, and writing as well as discovering aspects of both daily life and culture of Francophones all over the world. It is designed for students who have previously studied one semester of French at an elementary level. Core: AH, D.

MDLA 113 Elementary Spanish II (Cr3) (3:0)
Expansion of the skills acquired in an elementary Spanish I course; instruction and practice in listening, speaking, reading and writing in the target language; emphasis on vocabulary and grammatical structures; cultural elements fully integrated in all aspects of the course; designed for students who have previously studied one semester of Spanish at an elementary level; appropriate for native and non-native Spanish speakers. Also available through Online Learning. Core: AH, D.

MDLA 115 Elementary Chinese II (Cr3) (3:0)
This course expands the skills acquired in elementary Chinese I, and also includes instruction and practice in listening, speaking, reading and writing in Mandarin Chinese. There will be an emphasis on vocabulary and grammatical structures, and cultural elements will be fully integrated in all aspects of the course. This course is designed for students who have previously studied one semester of Chinese at an elementary level and are non-native speakers. Core: AH, D.

MDLA 117 Elementary Arabic II (Cr3) (3:0)
Expansion of the skills required in an elementary Arabic I course; the course will stress the active use if the language and continue developing student proficiency in the four language skills (speaking, listening, reading, and writing.) This course is designed for students who have previously studied one semester of Arabic at an elementary level. Core: AH, D.

MDLA 122 Intermediate French I (Cr3) (3:0)
This course, which is taught in French, develops further study and review of French grammar and vocabulary. Students are immersed in the French language and culture, and given the opportunity to apply listening and speaking skills to a variety of contexts. Reading strategies are emphasized and fundamentals of composition are presented. It is designed for students who have previously studied two semesters of French. Core: AH, D.

MDLA 123 Intermediate Spanish I (Cr3) (3:0)
Expansion of the language skills learned at the elementary levels; emphasis on conversation, reading and writing, with brief reviews of grammar; designed for students who have previously studied two or three semesters of Spanish; cultural elements fully integrated in all aspects of the course; taught primarily in Spanish and appropriate for native and non-native Spanish speakers. Core: AH, D. Also available through Online Learning.

MDLA 125 Intermediate Chinese I (Cr3) (3:0)
This intermediate level course in Standard Mandarin Chinese is a continuation of Elementary Chinese level II. The students will continue to extend their ability to listen, speak, read, and write in Mandarin Chinese. The students will focus on communication skills in their daily life, study, society and work while immersed in a fully Chinese speaking environment through exercising the necessary grammar, vocabulary and basic cultural knowledge. Designed for students who have studied two semesters of Elementary Chinese at a college level or equivalent. Core: AH, D.

MDLA 133 Intermediate Spanish II (Cr3) (3:0)
Expansion of the skills acquired in an elementary Spanish I course; instruction and practice in listening, speaking, reading and writing in the target language; emphasis on vocabulary and grammatical structures; cultural elements fully integrated in all aspects of the course; designed for students who have previously studied one semester of Spanish at an elementary level; appropriate for native and non-native Spanish speakers. Also available through Online Learning. Core: AH, D.

MDLA 135 Intermediate Chinese II (Cr3) (3:0)
This course is the continuation of Intermediate Chinese I. The students will continue to extend their ability to listen, speak, read, and write in Mandarin Chinese. The course will be taught completely in Chinese. The students will focus on communication skills in their daily life, study, society and work while immersed in a fully Chinese speaking environment through exercising the necessary grammar, vocabulary and basic cultural knowledge. Designed for students who have studied two semesters of Elementary Chinese and one semester of Intermediate Chinese at a college level or equivalent. Core: AH, D.

MDLA 291 Special Studies in Modern Language (Cr1)
See Statement on Special Studies. Offered on demand.

MDLA 292 Special Studies in Modern Language (Cr2)
See Statement on Special Studies. Offered on demand.

MDLA 293 Special Studies in Modern Language (Cr3)
See Statement on Special Studies. Offered on demand.

Meeting and Event Planning (MEPL)

MEPL 112 Meeting and Convention Management (Cr3) (3:0)
The introductory course provides the student with an interest in planning events such as meetings, conferences and conventions with the parameters of that segment. Student are introduced to the differences between meetings and conventions, the employees involved in those venues and the steps that are to be taken to plan, organize and produce such activities as meetings, seminars, conventions and trade shows. The course is for those with an interest in organizing and coordinating meetings, conventions, events and tours. Offered fall semester only.

MEPL 122 Special Event Management (Cr3) (3:0)
This course covers the theoretical and practical foundation for event management. Emphasis is placed on research, design, planning, coordination, budgeting and evaluation of events. Topics include competencies required for successful events, including parades, festivals, sporting and other special events. Offered spring semester only.

MEPL 132 Event Promotion and Sponsorship (Cr3) (3:0)
This course examines how to promote events and use events to endorse products, services and causes. Specifics covered include image, branding, advertising, publicity, ambush marketing and public relations, their importance to an event or product, the benefits and best practices of each. Cause marketing, corporate philanthropy, corporate social responsibility, non-profits and donations will all be analyzed in relationship to sponsorship. Also covered are the coordinating methods to secure sponsorship contracts. Prereq.- MEPL 112 or 122. Offered fall semester only.

MEPL 143 Event and Meeting Facilities Management (Cr3) (3:0)
This course highlights meeting and event facilities and venues and their methods of operation. Venues included are public assembly facilities, arenas, stadiums, convention centers, performing arts centers, and amphitheaters. Logistical considerations of booking events, contract negotiations, ticket sales,

maintenance and production are identified. Management techniques of hospitality facilities are examined to improve business productivity. Prereq.- MEPL 112 and 122. Offered spring semester only.

MEPL 147 The Business of Social Events and Wedding Consulting (Cr3) (3:0)
This course provides students with the knowledge and skills needed to operate a business related to social events and wedding consulting. Emphasis is placed on setting up and running an event consulting business, financial management for the business and the client, guidelines for working with clients, selecting vendors and venues, developing professional relationship, timelines and planning schedules. Events covered include: birthdays, anniversaries, bar and bat mitzvahs, quinceanaras, family reunions, showers, sweet sixteen, bachelor(ette) parties and custom designed celebrations. Prereq.- MEPL 112 and 122. Offered spring semester only.

Music (MUSC)

MUSC 101 Introduction to Music (Cr3) (3:0)
This course is a chronological survey of Western European and American music from 600 AD to the present. The primary emphasis is on developing listening skills through a better understanding of the cultural background and the progressive development of musical styles, musical ideas, musical language, and musical structures. Also available through Online Learning. Core: AH.

MUSC 110 Fundamentals of Music I (Cr3) (3:0)
The basic elements of music; exercises dealing with writing and interpreting various musical symbols, as well as constructing scales, intervals, and triads; training in the skills of basic musicianship: ear training, diction, and an introduction to composition.

MUSC 130 Chorus (Cr1) (0:2.5)
Study and performance of representative choral literature. May be taken four (4) times for credit.

MUSC 141 Applied Music I (Cr1) (1:0:5)
Private instrumental or vocal music lessons arranged with a private music teacher through the Northampton Community College faculty Applied Music advisor. The faculty advisor will assist the student in finding an appropriate teacher when necessary. The student will need to complete a minimum of one lesson per week with the private teacher and five practice hours per week during the semester. The student will pay Northampton Community College for the credit and pay the private teacher for the lessons at that teacher's rate.

MUSC 152 Introduction to Piano (Cr2) (1:2)
This course is for the student who has no or very little experience and desires to begin learning how to play the piano. It is designed to develop basic keyboard and musicianship skills including technique, sight-reading, harmonization, accompanying, music theory, and playing various piano repertoire. Prereq:- Students need access to a piano/keyboard for practice.

MUSC 162 Introduction to Guitar (Cr2) (1:2)
This class is for the student who desires to learn how to play the guitar. It is designed to develop basic and proper techniques and to provide students with experience reading musical notation and guitar tablature, and strumming chords. Students must have a guitar (acoustic or electric) for class and practice.

MUSC 191 Special Studies in Music (Cr1)
See Statement on Special Studies. Offered on demand.

MUSC 192 Special Studies in Music (Cr2)
See Statement on Special Studies. Offered on demand.

MUSC 193 Special Studies in Music (Cr3)
See Statement on Special Studies. Offered on demand.

MUSC 242 Applied Music II (Cr1) (1:0:5)
Private instrumental or vocal music lessons arranged with a private music teacher through the Northampton Community College faculty Applied Music advisor. The faculty advisor will assist the student in finding an appropriate teacher when necessary. The student will need to complete a minimum of one lesson per week with the private teacher and five practice hours per week during the semester. The student will pay Northampton Community College for the credit and pay the private teacher for the lessons at that teacher's rate. Prereq. - MUSC141.

MUSC 243 Applied Music III (>Cr1) (1:0:5)
Private instrumental or vocal music lessons arranged with a private music teacher through the Northampton Community College faculty Applied Music advisor. The faculty advisor will assist the student in finding an appropriate teacher when necessary. The student will need to complete a minimum of one lesson per week with the private teacher and five practice hours per week during the semester. The student will pay Northampton Community College for the credit and pay the private teacher for the lessons at that teacher's rate. Prereq. - MUSC242.

MUSC 244 Applied Music IV (Cr1) (1:0:5)
Private instrumental or vocal music lessons arranged with a private music teacher through the Northampton Community College faculty Applied Music advisor. The faculty advisor will assist the student in finding an appropriate teacher when necessary. The student will need to complete a minimum of one lesson per week with the private teacher and five practice hours per week during the semester. The student will pay Northampton Community College for the credit and pay the private teacher for the lessons at that teacher's rate. Prereq. - MUSC243.

MUSC 253 Fundamentals of Music II (Cr3) (3:0)
Students continue their music study developing more advanced principles from Fundamentals of Music I, including the study of common tone chord progressions and modulation, advanced figured bass, non-harmonic tones, melodic harmonization, analysis of diatonic seventh and chromatic harmonies, signt-singing, ear-training, and keyboard/piano skills. Prereq.- MUSC 110 or permission of instructor.

Nanofabrication (NANF)

NANF 211 Materials, Safety and Equipment Overview for Nanofabrication (Cr3) (2:2)
This course will provide an overview of basic nanofabrication processing equipment and materials handling procedures. The focus is on procedural, safety, environment, and health issues in equipment operation and materials handling. Emphasis is on using state-of-the-industry processing equipment in the Nanofabrication Facility cleanrooms. Prereq. - permission of department. Offered at the Nanofabrication facility of Pennsylvania State University, main campus.

NANF 212 Basic Nanofabrication Processes (Cr3) (2:2)
The course will provide an overview of basic processing steps in nanofabrication. A step-by-step description of the equipment and processes needed to fabricate devices and structures will be examined for microelectromechanical (MEM) devices, biomedical 'lab-on-chip' structures, display devices, and microelectronic devices including the diode, transistor, and full CMOS structures. Students will undertake 'hands-on' processing. Prereq. - permission of department. Offered at the Nanofabrication facility of Pennsylvania State University, main campus.

NANF 213 Thin Films in Nanofabrication (Cr3) (2:2)
This course will cover thin film deposition and etching practices in nanofabrication. The purpose is to develop a full understanding of the use of, and the processing involved in, thin film materials in nanofabrication. The emphasis is on learning with and using state-of-the-art processing equipment in the Nanofabrication Facility cleanrooms. Prereq. - permission of department. Offered at the Nanofabrication facility of Pennsylvania State University, main campus.

NANF 214 Lithography for Nanofabrication (Cr3) (2:2)
Lithography is a key part of the nanofabrication equipment, processing, and materials base. This course will cover all aspects of lithography from design and mask fabrication to pattern transfer and inspection. Emphasis will be on using state-of-the-art lithography equipment in the Nanofabrication Facility cleanrooms. Prereq. - permission of department. Offered at the Nanofabrication facility of Pennsylvania State University, main campus.

NANF 215 Materials Modification in Nanofabrication (Cr3) (2:2)
This course will cover in detail the processing steps used in modifying material properties in nanofabrication. The purpose is to provide hands-on experience across the spectrum of materials modification techniques used in nanofabrication. The emphasis is on learning and using state-of-the-art materials-modification equipment and materials characterization tools in the Nanofabrication Facility clean rooms. Prereq. - permission of department. Offered at the Nanofabrication facility of Pennsylvania State University, main campus.

NANF 216 Characterization, Packaging, and Testing of Nanofabricated Structures (Cr3) (2:2)
This course will examine a variety of techniques and measurements essential for controlling device fabrication, device performance, and device coupling to the outside world and device stability. The emphasis will be learning with and using state-of-the-art packaging equipment in the Nanofabrication Facility clean rooms. Prereq. - permission of department. Offered at the Nanofabrication facility of Pennsylvania State University, main campus.

Nursing (NURS)

NURS 101 Introduction to Nursing (Cr8) (4:12)
This course provides students with fundamental nursing knowledge and skills to provide basic nursing care to patients across the lifespan. The nursing process, communication skills and the recognition of normal assessment parameters are emphasized throughout the course. Students are introduced to principles of pharmacology, nutrition, legal and ethical nursing responsibilities and patient education needs. This course will include classroom, laboratory and clinical experiences. Restricted to Nursing Students. Pre- or coreq.- BIOS 160 or 204, ENGL 101C, PSYC 103. Additional course fee: $180.00.

NURS 151 Medical-Surgical Nursing for the Practical Nurse (Cr8) (4:12)
Application of nursing principles to medical-surgical health problems affecting patients across the lifespan; development of critical thinking and communication skills through clinical application in a variety of settings. Restricted to Nursing Students. Prereq. - NURS 101 and BIOS 160; Pre- or coreq.- PSYC 258. Offered spring semester only.

NURS 205 Geriatric Nursing for the Practical Nurse (Cr4) (1.3:8.3)
Emphasis on application of nursing interventions to address the complex health care needs of geriatric patients; basic principles of nursing management within the scope of practical nursing; extended care facilities provide clinical experiences for the course. Restricted to Nursing Students. Prereq.- NURS 151, PSYC 258 and SOCA 103. Additional course fees: $37.00. Offered summer only.

NURS 206 Maternal Nursing for the Practical Nurse (Cr4) (1.3:8)
Emphasis on providing nursing care to the childbearing family through the nursing process; exploration of the role of the practical nurse related to pregnancy, childbirth, and pediatrics in acute care and community settings. Restricted to Nursing Students. Prereq.- NURS 151, PSYC 258 and SOCA 103. Offered summer only.

NURS 207 Mental Health Nursing for the Practical Nurse (Cr3) (1:6.2)
Application of the nursing process to address the needs of patients with common mental health problems; emphasis on the principles of therapeutic communication and relationships in providing nursing care in inpatient and outpatient settings. Restricted to Nursing Students. Prereq.- NURS 151, PSYC 258 and SOCA 103. Offered summer only.

NURS 215 Nursing Care of Patients with Medical Surgical Problems (Cr8) (4:12)
This course entails the application of the nursing process to plan and provide care to patients of various age groups with medical-surgical problems. This course includes classroom, laboratory, and clinical experiences. Restricted to Associate Degree Nursing Students. Prereq.- NURS 101. Pre- or coreq.- BIOS 254, ENGL 151C, MATH 140 or 150. Additional course fee: $167.00.

NURS 223 Maternal Child Health Nursing (Cr4) (2:6)
This course entails the application of the nursing process related to the care of the family throughout the childbearing cycle. Critical thinking skills and caring behaviors are stressed. This course includes classroom, laboratory and clinical experiences. Restricted to Associate Degree Nursing Students. Prereq.- NURS 215. Pre- or coreq.- BIOS 202, PSYC 258, NURS 224, SOCA 102 or 103.

NURS 224 Care of Mental Health Patients (Cr4) (2:6)
This course entails the application of the nursing process in caring for patients along the continuum of mental health. Critical thinking skills and caring behaviors are stressed. Emphasis is placed on self-awareness, the therapeutic process of communication, ethical-legal issues, theoretical and practice advances in the etiology and treatment of mental illness, and the contemporary trends in the practice of psychiatric nursing throughout the lifespan. This course includes classroom, laboratory and clinical experiences. Restricted to Associate Degree Nursing Students. Prereq.- NURS 215. Pre- or coreq.- BIOS 202, PSYC 258, NURS 223, SOCA 102 or 103. Additional course fee: $167.00.

NURS 231 Nursing Seminar (Cr2) (2:0)
This course enables professional nurse role development through simulation exercises that emphasize essential competencies for safe health care delivery. This course is presented in an experience-based learning format.
Prereq.- NURS 223, 224, BIOS 202, PSYC 258, and SOCA ___; Pre- or coreq.- NURS 260, 261, CMTH 102, and PHIL 202G.

NURS 260 Integrated Concepts for Nursing Practice (Cr6) (4:2)
Through classroom learning activities, simulation, and clinical experience, the student will apply concepts of evidence-based practice, performance improvement, priorities of care, and delegation, as they relate to individuals and families experiencing complex health problems commonly seen the critical care, acute care, and community environments. Prereq.- NURS 233 and 224, coreq.- NURS 231. Additional course fee: $140.00.

NURS 261 Nursing Practicum (Cr2) (0.25:72)
This class is a faculty guided independent capstone course to culminate the student's nursing education. Students will gain increased autonomy while apply nursing knowledge and leadership concepts to patients and families in the healthcare setting. Students will complete 72 clinical hours (total) over the course period. Students must successfully complete NURS260 before taking this practicum. Prereq.- NURS 223 and 224, coreq.- NURS 231 and 260,PHIL 202G, CMTH 102.

NURS 291 Special Studies in Nursing (Cr1)
See Statement on Special Studies. Offered on demand. Restricted to Nursing students.

NURS 292 Special Studies in Nursing (Cr2)
See Statement on Special Studies. Offered on demand. Restricted to Nursing students.

NURS 293 Special Studies in Nursing (Cr3)
See Statement on Special Studies. Offered on demand. Restricted to Nursing students.

NURS 297 Special Studies in Nursing (Cr2)
See Statement on Special Studies. Offered on demand. Restricted to Nursing students.

Nutrition (NUTR)

NUTR 105 Introduction to Nutrition (Cr3) (3:0)
This course is designed to introduce the student to the fundamentals of nutrition related to health promotion and disease prevention throughout the life cycle. Topics include metabolism of carbohydrate, lipid, protein, vitamins, minerals, food and nutrition across the life span from pregnancy and fetal growth to old age. Also available through Online Learning.

Occupational Safety (OSAH)

OSAH 100 Industry Outreach Safety Education (Cr1) (1:0)
This course is based upon the 10-hour Occupational Safety and Health Administration's General Industry and Construction Industry Outreach Training Program. The intention is to provide entry level general industry and construction industry workers a broad awareness as it relates to recognizing and preventing hazards within their respective workplaces. The discussion and information cover a variety of safety and health hazards which an employee may encounter in either workplace. This course is intended to be an orientation to the general safety practices along with introductory concepts of occupational safety and health.

Office Administration (OFAD)

OFAD 101 Keyboarding & Formatting Essentials I (Cr3) (3:0)
This course will focus on the introduction and development keyboarding methodology through touch typing. Emphasis will also be placed on the formatting skills required to master the preparation of business letters, reports, tables, memorandums, and resumes. Correct technique is strongly encouraged, and a minimum typing speed of 30 words per minute is required to successfully complete the course. Also available through Online Learning.

OFAD 121 Keyboarding & Formatting II (Cr3) (3:0)
This course will focus on reinforcement of correct "touch" keyboarding techniques with emphasis on speed and accuracy. Develops mastery of formatting "mailable" business documents using Microsoft Word to accomplish the following: complex letters, a variety of business reports, memos and memo reports, enhanced complex tables, and template modification and application with a minimum speed of 40 words for course completion. Also available in a hybrid format. Prereq. - OFAD 101.

OFAD 125 WordPerfect (Cr3) (3:0)
This course will focus on the development of the skills required to prepare, format and save documents using WordPerfect software as required in a

professional office environment. Emphasis will be placed on document accuracy; including formatting, spelling and grammar, as well as overall professional appearance. Particular attention will be paid to mastering file management, composing and producing professional quality correspondence, including emails, resumes and cover letters.

OFAD 141 Introduction to Word (Cr1) (1:0)
This introductory course is designed for personal and / or vocational use for students wishing to master the fundamentals of Microsoft Word; creation and formatting of letters, reports, labels and flyers; insertion of graphic components to Word documents and introduction to mail merge.

OFAD 142 Introduction to Excel (Cr1) (1:0)
This introductory course is designed for personal and / or vocational use for students wishing to master the fundamentals of Microsoft Excel; creation and formatting of worksheets and charts, creation of formulas, use of functions and graphic features of Excel.

OFAD 143 Introduction to Access (Cr1) (1:0)
This introductory course is designed for personal and / or vocational use for students wishing to master the fundamentals of Microsoft Access; creation, modification and sorting of database tables; extracting information via queries; creation of forms and reports; importing and exporting Access data with Microsoft Word and Excel software including mail merge.

OFAD 144 Introduction to Outlook (Cr1) (1:0)
This introductory course develops skill in utilizing all components of Microsoft Outlook, an information management application that provides tools to send and receive email, organize schedules and events, maintain contacts, to-do-lists and notes. Organizing and managing information is a fundamental skill required in today's society, and while anyone can benefit from this course, these skills are extremely important to those preparing for a career in a business, legal, or medical office. Also available through Online Learning.

OFAD 149 PowerPoint (Cr1) (1:0)
This introductory course develops skills in mastering the fundamentals of Microsoft PowerPoint, a presentation software program that offers students, regardless of career focus, the skills to plan a variety of presentations for an audience. The creation and sharing of professional-quality slide technologies along with a basic understanding of how to plan a presentation from inception to delivery.

OFAD 151 Computer Fundamentals (Cr1) (1:0)
This introductory course is designed to develop computer skills for personal and/or vocational objectives. Topics include the basics of using and maintaining a Windows-based computer, digital file management, and accessing the Internet to communicate and locate information. Students also learn to use the institution's course management system and current social networking sites.

OFAD 152 Excel for the Medical Profession (Cr2) (2:0)
This course develops key skills in Microsoft Excel with a focus on spreadsheets used and useful in the medical office environment. Topics covered include formulas, functions formatting, charts and templates. Advanced topics include pivot tables, general macros skills and accessing data from external sources. Prereq. - OFAD142 or CISC101.

OFAD 154 Medical Terminology (Cr3) (3:0)
Comprehensive study of medical terminology with emphasis on prefixes, suffixes, word roots, and spelling principles through the use of programmed materials, interactive computer experiences, lecture, and audio tape delivery. Also available through Online Learning.

OFAD 163 Law Office Procedures (Cr3) (3:0)
Legal software for billing and docket control, procedures for filing, phone techniques, and appropriate handling of clients in a legal setting; divorce, bankruptcy, and keyboarding of wills. Prereq. - word processing skill using Microsoft Word or Word Perfect. Offered spring semester only.

OFAD 170 Coding for Medical Services (Cr3) (3:0)
Development of ICD-9-CM and CPT coding skills with emphasis on coding guidelines, methodologies, rules and regulations for inpatient and outpatient medical/health services; in-class coding exercises including the selection of principal/secondary diagnosis and procedures, V codes, E codes, chronic and acute conditions. Prereq. - OFAD 101 and 154.

OFAD 172 Health Insurance Basics (Cr3) (3:0)
This course reviews the procedures, rules and regulations as well as the history, structure, and organization of the health insurance processes. Emphasis will be placed on review of medical documentation and accuracy in the submission of health claims for optimal reimbursement. Prereq. - OFAD154

OFAD 175 ICD-10-CM/PCS Coding Methodologies (Cr3) (3:0)
This course reviews the ICD-10-CM/PCS coding and classifications systems used in the health care setting. The emphasis is on the coding guidelines, rules and regulations as well as the history, structure and organization of the coding systems. Emphasis on the review of medical documentation, diagnosis selection and the correct sequencing for optimal reimbursement will also be integrated with the course. Prereq. - OFAD154.

OFAD 176 CPT Coding Methodology (Cr3) (3:0)
This course reviews the CPT (Current Procedural Terminology) coding system used in the health care setting. The course will emphasize the coding guidelines, the application of modifiers, the rules and regulations as well as the structure of the coding system. Review of medical documentation will also be incorporated. Prereq. - OFAD154.

OFAD 177 Health Information Technology (Cr3) (3:0)
This course is designed to introduce the student to the field of health information technology. Topics to be covered include the healthcare delivery system, medical records format and content, healthcare reimbursement, how information is gathered and by whom, how information is used and the technology behind health information systems. In addition, the course will cover retention policies and procedures, documentation, confidentiality issues (HIPAA), legal and regulatory aspects of the medical record and the basics of the electronic health record.

OFAD 201 Advanced Document Production (Cr3) (3:0)
This course focuses on effective utilization and further development of advanced word processing and spreadsheet software features used in preparing

and formatting various documents according to a variety of style guides and resources. Emphasis is placed on extreme accuracy, mail-ability, and high-level production using simulated information-processing projects that resemble applications that would be required in modern office environments. Prereq. - OFAD 121.

OFAD 230 Office Procedures (Cr3) (3:0)
This course emphasizes the essential skills required for administrative assistants working in a contemporary office environment. Topics for this course will include: office protocols, time management, office equipment and technology, records management, meeting and travel planning, customer service, office ergonomics, the virtual administrative assistant, cloud computing, as well as other support functions needed in today's office. Students will develop their customer service, teamwork, and problem solving, as well as other soft skills via real-world office simulations. Prereq. - OFAD121

OFAD 240 Medical Office Management Practices (Cr3) (3:0)
This course is a culminating experience for students enrolled in health care programs. Students will develop skills necessary for working in a health care environment, whether it is in a physician's office, hospital, skilled nursing facility or other health care/medical office. Students will master tasks of a medical office, including medical communications and scheduling, preparing patients' charts and bills, electronic health records, finances, managing health information, ethics, law and compliance and general office management. Prereq. - OFAD154

OFAD 250 Internship (Cr3) (1:0:10)
This course includes preparatory seminars preceding a 150 hour placement of each student in a health care office or corporate office setting appropriate to the program of study. The on-site experience will provide actual "hands-on" experience supervised by an on-site, experienced mentor; assignments by faculty will include maintenance of a daily journal and development of a detailed procedures manual which reflects office operations. On-site visits will be made by OFAD faculty. Prereq. - BUSA221G; Pre- or co-req. - OFAD230 or 240

OFAD 254 Advanced Medical Terminology (Cr3) (3:0)
This course is an in-depth study of medical terminology with emphasis on current usage pertaining to diagnostic techniques, disease processes, oncology, radiology, surgical and medical treatment/intervention. Prereq. - OFAD154

OFAD 270 Advanced Coding for Medical Services (Cr3) (3:0)
This course introduces advanced ICD-10 and CPT coding skills with emphasis on enhancing accuracy and refinement of effective use of resources. Course intended only for those students who possess a working knowledge of coding; will prove beneficial to those currently working in a medical billing setting. Prereq. - OFAD170 or OFAD175+176.

OFAD 275 Capstone Simulation for Coding (Cr2) (2:0)
This course bridges the gap between classroom and work experience for medical coding and billing. It provides a capstone experience allowing students to take what was learned in the classroom and apply it with on-the-job scenarios typically performed by a medical coding and billing specialist. Prereq. - OFAD170 or OFAD175+176.

OFAD 276 Diversity & Cultural Competency in Healthcare (Cr2) (2:0)
This course is designed to explore diversity and cultural competency in healthcare. Students will explore and understand the wide array in which diversity and culture influence healthcare needs, expectations and decisions.

Paralegal (PARL)

PARL 101 Introduction to Paralegal Studies (Cr3) (3:0)
Basic introduction to the American legal system and the variety of work done in the public and private practice of law by attorneys and paralegals working under the supervision of attorneys; emphasis on substantive and procedural aspects of law and the role of paralegals in accomplishing varied tasks within the legal system; examination of the structure and operation of the federal and state court systems; discussion of the ethical considerations inherent in the performance of various functions by paralegals. Formerly PARL 180.

PARL 151 Family Law (Cr3) (3:0)
Basic common law and statutory concepts of family law and domestic relations. Topics include, among others, marriages, separation, divorce, annulment, marital property, the parent-child relationship, child custody and supports, adoptions, guardianship, domestic relations court procedures, and the paralegal's role in the delivery of family law legal services. Ethical obligations, family law terminology and relevant technology in domestic relations practice are also presented. Pre- or coreq. - PARL 101. Offered fall semester only.

PARL 153 Real Estate Law (Cr3) (3:0)
Designed to prepare the student to become a legal office administrative support person who is either a paralegal or legal office administrator; basic concepts of the law of real property and rules affecting ownership, and transfer of ownership of real property; preparation of deeds, mortgages, title search and leases, including accumulating data and information needed to complete the above forms. Pre- or coreq. - PARL 101; Prereq. - word processing skill using Microsoft Word. Offered fall semester only.

PARL 156 Estates and Trusts (Cr3) (3:0)
Preparation of wills, trusts and administration of estates; responsibilities of the legal assistant in these areas; sample forms for wills, trusts and administration of an estate; preparation of tax returns. Pre- or coreq. - PARL 101. Offered spring semester only.

PARL 161 Business Organizational Law (Cr3) (3:0)
Principles of law applicable to operation of a business as a sole proprietorship, partnership, and corporation; documents needed for organization, operation and dissolution of each. Pre- or coreq. - PARL 101. Offered spring semester only.

PARL 162 Contract Law (Cr3) (3:0)
Analysis and application of the law pertaining to contract classification, formation, interpretation, remedies, and dispute resolution under common law and the Uniform Commercial Code. Emphasis on the role of the paralegal in accomplishing various tasks under the supervision of an attorney in all phases of the contracting process. Pre- or coreq.- PARL 101. Offered fall semester only.

PARL 163 Tort Law (Cr3) (3:0)
Introduction to the area of civil wrongs including intentional torts, negligence, product liability, trespass, and nuisance cases. Examination of the common defenses to such actions and appropriate remedies for the victims. The paralegal's role in the delivery of legal services, ethical obligations, legal terminology and relevant technology in a tort and personal injury law practice are also presented. Pre- or coreq. - PARL 101. Offered spring semester only.

PARL 166 Criminal Law and Procedure (Cr3) (3:0)
Overview of the paralegal's role in various law offices involved in the criminal justice process. Substantive aspects of criminal law including the general principles of criminal liability, analysis of particular crimes, parties to crimes, and the substantive defense to crimes. Constitutional safeguards and procedures from arrest through trial, sentencing, punishment, and appeal are also studied. Ethical obligations, appropriate legal terminology and relevant technology in criminal law and procedure are examined. Pre- or coreq. - PARL 101. Offered fall semester only.

PARL 187 Litigation Practice and Procedure (Cr3) (3:0)
Civil litigation including appeals, drafting pleadings, interrogatories, depositions, and motions; aspects of criminal practice. Pre- or coreq. - PARL 101; Prereq. - typing skill.

PARL 215G Legal Research and Writing (Cr3) (3:0)
This course provides practical experience locating and applying conventional and computerized legal research resources in the investigation and resolution of typical fact scenarios and legal issues. Emphasis is placed on preparing for the role of the paralegal performing legal research in an attorney-supervised law office. Students will become familiar with basic legal writing principles and the incorporation of legal research results into traditional writing exercises such as case briefs and legal research memoranda. Prereq.- ENGL 151 and PARL 101. CORE:WI

PARL 250 Internship (Cr3) (1:6)
This course includes preparatory seminars preceding placement of each student in an office setting appropriate to the course of study. The onsite experience includes the assignment by PARL faculty in an environment where the intern will be supervised by an onsite experienced mentor, maintenance of a daily journal during the actual work experience and development of a detailed procedures manual which reflects office operations. Prereq. - OFAD 125, OFAD 163, PARL 187 and PARL 215G.

PARL 291 Special Studies in Paralegal (Cr1)
See Statement on Special Studies. Offered on demand.

PARL 292 Special Studies in Paralegal (Cr2)
See Statement on Special Studies. Offered on demand.

PARL 293 Special Studies in Paralegal (Cr3)
See Statement on Special Studies. Offered on demand.

Philosophy (PHIL)

PHIL 111 On Death and Dying (Cr3) (3:0)
This course provides a number of perspectives on death and how people perceived and responded to it. It offers a survey of personal, philosophical, social, and artistic aspects as well as routes for exploring grief and grieving and the relationship between death and the meaning of life. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Core: AH, CT, D.

PHIL 121 World Religions (Cr3) (3:0)
World-wide religions (Hinduism, Buddhism, Taoism, Judaism, Christianity, Islam and Native American spirituality), their concepts of deity, world-views, and theories on the problems and potentials of humankind; emphasis on essential ethical, metaphysical, and spiritual beliefs and practices, similarities and differences, and relations to contemporary life. Core: AH, D. Also available through Online Learning.

PHIL 201 Introduction to Philosophy (Cr3) (3:0)
A study of central philosophical questions and theories about human existence, our experience of and place in the world; God, free will, scientific humanism, existentialism; ancient Greek, Judeo-Christian, Modern and 20th century thought; emphasis on development of rational skills and reflective thinking. Approved for the Honors Program. Prereq. - Reading and writing competence as determined for ENGL 101. Also available through Online Learning. Core: AH

PHIL 202 Ethics and Moral Problems (Cr3) (3:0)
A critical study of major ethical theories and concepts and their application to selected moral issues, to aid in shaping one's own ethical stance and in making sound ethical choices; Hedonism, Egoism, Altruism, Authenticity, Existentialism, Absolutism, Relativism, Utilitarianism, Human Rights and Duty, Justice, Multiculturalism and Feminism. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Approved for the Honors Program. Core: AH.

PHIL 204 Asian Philosophies (Cr3) (3:0)
A survey of major Asian traditions, texts, and thinkers, especially in Indian and Chinese philosophy. Course themes will include Asian philosophical perspectives on the nature of the mind, body, self, soul, identity, knowledge, reality, compassion, duty, karma, and nirvana. Approved for the Honors Program. This course will involve the disciplined practices of concentration and meditation. Pre or coreq. - PHIL 121 or 201. Core AH, D.

PHIL211 Ancient Philosophy (Cr3) (3:0)
This course is a survey of major Ancient Western Philosophical traditions, texts, and thinkers, emphasizing Plato and Aristotle, but also including the pre-Socratic and Hellenistic eras. Course themes include Ancient Greek and Roman (et.al.) perspectives on the nature of reality, knowledge, virtue, happiness, the soul, logic, and philosophical inquiry. Prereq.- ENGL 101. Core: AH.

PHIL 215 Modern Philosophy (Cr3) (3:0)
This course is a survey of major Modern Western Philosophical traditions, texts, and thinkers, emphasizing Continental Rationalism and British Empiricism and ending with Kant. Course themes include perspectives on the nature of reality, knowledge, the relationship between mind and body, and the limits and possibilities of human reason. Prereq.- PHIL Reading and Writing Competencey as determined for ENGL 101. Core: AH.

PHIL 220 Existentialism (Cr3) (3:0)
This course is a survey of major existentialist thinkers and traditions in philosophy, beginning with Hegel, and including such thinkers as Kierkegaard, Nietzsche, Simone de Beauvoir, Albert Camus, Jean Paul Sartre, Martin Heidegger and Maurice Merleau-Ponty. Themes addressed include authenticity, bad faith, freedom, anxiety, nihilism, mortality, existentialist ethics, phenomenology, humanism, perception, the body, and truth. Prereq.- PHIL 201. Core: AH.

PHIL 291 Special Studies in Philosophy (Cr1)
See Statement on Special Studies. Offered on demand.

PHIL 292 Special Studies in Philosophy (Cr2)
See Statement on Special Studies. Offered on demand.

PHIL 293 Special Studies in Philosophy (Cr3)
See Statement on Special Studies. Offered on demand.

Physical Education (PHED)

PHED 111 Tennis I (Cr1) (0.5:1.5)
Designed for the beginning student to develop and acquire the skills, techniques and knowledge, thus enabling the student to successfully participate in tennis on a lifetime basis. Coeducational.

PHED 116 Golf (Cr1) (0.5:1.5)
Designed for the development and acquisition of skills, techniques and knowledge to enable the student to successfully participate in golf on a lifetime basis. Coeducational.

PHED 117 Bowling I (Cr1) (0.5:1.5)
Designed for the beginning student to develop and acquire the skills, techniques, and knowledge thus enabling the student to successfully participate in bowling on a lifetime basis. Student works independently to achieve the objectives of the course. Additional lane fee will be charged. Coeducational. Also available through Online Learning. Additional course fees: $40.00.

PHED 120 Racquetball (Cr1) (0.5:1.5)
Designed to enhance the skills, techniques and knowledge to enable the student to successfully participate in racquetball on a lifetime basis. Coeducational.

PHED 121 Cardio Conditioning (Cr1) (0.5:1.5)
This course focuses primarily on developing the cardiorespiratory system. The course combines basic cardiorespiratory exercise from various facets of cardiorespiratory activities, including, but not limited to, traditional activities such as walking, and jogging, as well as martial arts, kickboxing, and full-body movements to create a great cardio workout. Boot camp, and interval training is also included. The course is designed to teach students how to safely and effectively get into their target heart rate zones, and increase their cardiorespiratory strength and stamina for lifetime fitness.

PHED 125 Weight Training I (Cr1) (0.5:1.5)
A course designed to introduce the student to basic principles and techniques of progressive resistance training. Instruction will include the use of free weights, selectorized machines, and other specialized equipment. Students will devise a personal program designed to meet their fitness needs. Medical clearance or testament of health status is required. Also available through Online Learning.

PHED 130 Fitness I (Cr1) (0.5:1.5)
Application of training techniques relating to the development and improvement of strength, flexibility, and cardiovascular endurance; emphasis on the effects of exercise on the physiological systems of the body, development of individualized fitness programs and development of an appreciation of the values derived from such training programs and lifetime sports activities. Medical clearance or testament of health status is required. Also available through Online Learning.

PHED 135 Yoga and Pilates (Cr1) (0.5:1.5)
Designed to introduce the student to the fundamental philosophies and skills of Yoga and Pilates. Instruction will include flexibility and other physiological benefits as well as psychological and relaxation benefits.

PHED 140 Backpacking (Cr1) (.5:1.5)
This course is designed to instruct students in the basic skills and equipment of hiking, backpacking, wilderness camping and cooking, navigation, trip planning, safety, and first aid. Instruction will emphasize the value of backpacking as a life-long activity. Students will plan and execute an overnight trip.

PHED 211 Tennis II (Cr1) (0.5:1.5)
A course designed to enhance the student's skills, techniques and knowledge of the game of tennis, thus enabling the student to participate on a more competitive basis. Medical clearance or testament of health status is required. Prereq.- PHED 111 or departmental approval.

PHED 217 Bowling II (Cr1) (0.5:1.5)
A course designed to enhance the student's skills, techniques and knowledge thus enabling the student to participate on a more competitive lifetime basis. Student works independently to achieve the objective of the course. Coeducational. Prereq. - PHED 117 or departmental permission. Also available through Online Learning. Additional course fees: $40.00.

PHED 230 Fitness II (Cr1) (0.5:1.5)
This course builds upon concepts learned in Fitness I to provide a deeper understanding of fitness and a more complete view of wellness. Goal setting, special exercise considerations, injury prevention, heart health, nutrition, and weight management will be examined. Students will employ these concepts to further enrich fitness programs and lead a healthier lifestyle. Medical Clearance or testament of health status is required. Prereq.- PHED 130 or departmental permission. Only available through Online Learning.

PHED 235 Intermediate Yoga (Cr1) (0.5:1.5)
This course is designed for the student with prior experience in Yoga. This course introduces students to more challenging variations of basic postures, and to asanas at the intermediate level. Pranayama, Yogic philosophy, meditation and exercises for stress-reduction are integrated into each class. Prereq.- PHED135.

PHED 291 Special Studies in Physical Education (Cr1)
See Statement on Special Studies. Offered on demand.

PHED 292 Special Studies in Physical Education (Cr2)
See Statement on Special Studies. Offered on demand.

PHED 293 Special Studies in Physical Education (Cr3)
See Statement on Special Studies. Offered on demand.

PHED 295 Special Studies in Physical Education (Cr1)
See Statement on Special Studies. Offered on demand.

Physics (PHYS)

PHYS 101 Physics I (Cr4) (3:2)
This is an introductory, algebra-based, problem-solving physics course with a lab component. Topics covered are one and two-dimensional motion, forces, Newton's laws, work, power, energy, momentum, rotation, equilibrium, fluids, temperature, and heat. Prereq. - MATH140 with C or better. Core: SCI. Also available through Online Learning.

PHYS 151 Physics II (Cr4) (3:2)
This is the follow-on physics course to PHYS 101 (Physics I), and is an introductory, algebra-based, problem-solving course with a lab component. Topics covered are vibrations and waves, sound, electric charge and electric fields, circuits, magnetism, electromagnetic waves, light, and optics. Prereq. - PHYS 101 with C or better. Core: SCI. Also available through Online Learning.

PHYS 152 Physical Science II (Cr3) (2:2)
A study of basic physics and chemistry including properties of matter, force and motion, work and machines, heat and combustion, electricity and magnetism, mechanics of liquids and gases, basic chemical reactions, atomic energy and radiation. Core: SCI. Also available through Online Learning.

PHYS 215 Physics for Science and Engineering I (Cr5) (4:3)
Physical quantities, particle kinematics and dynamics, work, energy, momentum, rotational mechanics, equilibrium, heat, and thermodynamics. Pre- or coreq. - MATH 181. Core: SCI.

PHYS 225 Physics for Science and Engineering II (Cr5) (4:3)
This is the follow-on physics course to PHYS 215 (Physics for Science & Engineering I), and is an engineering and scientist level, calculus-based, problem-solving physics course with lab component. Topics covered are vibrations and waves, sound, electric charge and electric fields, circuits, magnetism, electromagnetic waves, light, optics and modern physics (quantum, atomic, relativity). Prereq. - PHYS215 with C or better; Pre- or Coreq. - MATH210. Core: SCI

Political Science (POLS)

POLS 101 Introduction to Political Science (Cr3) (3:0)
Basic issues of political science including political theory, comparative political institutions, dominate ideologies and ideas, the importance of law, the domestic and Third World struggles for civil and political equality and international relations. Also available through Online Learning. Approved for the Honors Program. Core: SIT, D, CT.

POLS 105G American Constitutional Law (Cr3) (3:0)
A survey of constitutional law emphasizing civil rights and individual liberties, this course will provide students with a general understanding of the major issues in constitutional law, including the setup of the US Government, the separation of powers between branches of federal government, federalism and states' rights, and the balance of the interests of the government with that of the individual in a diverse society. Prereq. - ENGL101. Also available through Online Learning. Core: SIT, WI, CT, D.

POLS 110 American National Government (Cr3) (3:0)
Constitutional interpretation and implementation, powers and procedures of executive, legislative and judicial branches and the American political process. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Core: SIT.

POLS 150 Peace Studies and Conflict Resolution (Study Abroad) (Cr3) (3:0)
The course examines the political, socioeconomic, and historical factors contributing to a culture of peace and non-violence in Costa Rica as well as the contemporary challenges in maintaining that culture. Students will meet the decision makers and practitioners in the fields of government, business, education, religion, security, foreign policy, environment, and the media. Basic language and cultural instruction will be included along with excursions to areas of interest in Costa Rica. (Study Abroad). Prereq.- ENGL 101 and approval of instructor. Core: SIT, D.

POLS 170 Politics of Modern Turkey (Study Abroad) (Cr3) (3:0)
This course focuses on the politics of modern Turkey with special reference to the culture, history, economy, and social life of the country. The political structure and institutions of Turkey are studied with special focus on Turkish secular democracy within the context of tradition, modernity and change. Core: SIT, D.

POLS 202 International Relations (Cr3) (3:0)
This course examines the theories and facts about contemporary relationships among the nations of the world. It covers major global issues such as war and national security, economic interdependence, human rights, global poverty, environmental issues, and the work of international organizations such as the United Nations. Also available through Online Learning.Core: SIT, D, CT.

POLS 205 Women and Politics (Cr3) (3:0)
This course explores women's quest for political equality in the U.S. and globally. It examines the social, cultural and economic factors affecting women's political power. The course also surveys contemporary global issues and their impact on the status of women. Course numbers ending with G are Writing Intensive (WI). Core: D, SIT.

POLS 251 State and Local Government (Cr3) (3:0)
A survey of constitutional law emphasizing civil rights and individual liberties, this course will provide students with a general understanding of the major issues in constitutional law, including the setup of the US Government, the separation of powers between branches of federal government, federalism and states' rights, and the balance of the interests of the government with that of the individual in a diverse society. Course numbers ending with G are Writing Intensive (WI). Core: SIT, CT, D.

POLS 291 Special Studies in Political Science (Cr1)
See Statement on Special Studies. Offered on demand.

POLS 292 Special Studies in Political Science (Cr2)
See Statement on Special Studies. Offered on demand.

POLS 293 Special Studies in Political Science (Cr3)
See Statement on Special Studies. Offered on demand.

Psychology (PSYC)

PSYC 103 Introduction to Psychology (Cr3) (3:0)
Research and psychotherapeutic methods, and the following topics: history of psychology, biological bases of behavior, sensation, perception, consciousness, learning, memory, language and thought, intelligence, motivation, emotion, human development, personality, stress and coping, psychological disorders, social behavior. Prereq. - Reading and writing competency as determined for ENGL 101. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Approved for the Honors Program. Core: SSHB

PSYC 221 Responding to the Bereaved (Cr3) (3:0)
Comprehensive study of bereavement, including grief and mourning, complicated grief, bereaved children and adolescents, spousal bereavement, bereaved parents, principles of bereavement caregiving and assessment. Students will explore ways to structure the funeral director's role as caregiver, address their feelings and attitudes toward death, and receive training in communication skills enhancement. Restricted to Funeral students.

PSYC 230 Introduction to Health Psychology (Cr3) (3:0)
This course is an overview of the expanding field of health psychology. Current research will be examined to understand how biological, psychological, and social factors influence health, especially as they relate to chronic and life-threatening illnesses (e.g., cancer, AIDS, diabetes, hypertension, and chronic pain). There will be an exploration of the role of psychologists and psychological research in areas such as prevention, early detection and adaptation to illness. Students will also consider cultural and gender factors that influence the following: health behaviors; access to, and utilization of, health-related resources; and health outcomes.Prereq.- PSYC103. Core: D, SSHB.

PSYC 235 Developmental Child Psychopathology (Cr3) (3:0)
This course investigates the issues of normal versus psychopathological behavior in infants, children, and adolescents and surveys alternative views of etiology, diagnosis, treatment and prevention or various mental disorders with a special emphasis in the developmental psychopathology perspective. Prereq. - PSYC103. Core: SSHB.

PSYC 245 Cognitive Psychology (Cr3) (3:0)
Cognitive psychology is the study of what we know, how we know it, and how that knowledge is acquired, organized, accessed, and used. This class will be a survey of the following: a historical perspective on the field of studying cognition; the research methods of contemporary cognitive psychology; attention; perception; memory; the structure of knowledge; individual differences in intelligence; our understanding of language and music; reasoning; problem-solving; and cognitive neuroscience. Prereq.- PSYC 103. Core SSHB.

PSYC 251 Child Psychology (Cr3) (3:0)
The individual from conception to adolescence: physically, mentally, emotionally and socially from the research standpoint. PSYC 251 and PSYC 258 may not both be used for credit. Prereq. - PSYC 103. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning.

PSYC 255 Abnormal Psychology (Cr3) (3:0)
This course investigates abnormal psychology and surveys the causes, treatment and prevention of various disorders. Prereq. - PSYC 103. Core: SSHB. Also available through Online Learning.

PSYC 258 Developmental Psychology (Cr3) (3:0)
This course is a theory and research based overview of physical, cognitive, psychosocial dimensions of human development from preconception to death.

It includes discussion of universal patterns, cultural differences and individual variations within cultures. PSYC251 and PSYC258 may not both be used for credit. Course numbers ending with G are Writing Intensive (WI). Prereq. - PSYC 103. Also available through Online Learning. Approved for the Honors Program. Core: D, SSHB.

PSYC 265 Psychology of Sex and Gender (Cr3) (3:0)
Students explore both human sex (the biological identification as male/female) and gender (the social/personal construct of feminine/masculine) from a psychological perspective. Students investigate the theories and research of biological, psychological, and cultural determinants. The influence of sex and gender is examined in areas of development, aggression, achievement, communication, relationship, employment, and physical and mental health. Prereq. - PSYC 103. Core: SSHB. Approved for the Honors Program. Also available through Online Learning.

PSYC 291 Special Studies in Psychology (Cr1)
See Statement on Special Studies. Offered on demand.

PSYC 292 Special Studies in Psychology (Cr2)
See Statement on Special Studies. Offered on demand.

PSYC 293 Special Studies in Psychology (Cr3)
See Statement on Special Studies. Offered on demand.

Public Health (PUBH)

PUBH 101 Introduction to Public Health (Cr3)(3:0)
This course will provide students with an overview of the population health approach to public health. Students will learn evidence-based public health tools to explain the impact of chronic and non-communicable diseases, communicable diseases, determinants of health, and the environment on the health of populations. Students will examine public health issues and determine how to effectively assess options for interventions to promote health and improve health outcomes. This course includes a review of public health policy, health care systems, and the roles of health professionals.

PUBH 102 Introduction to Epidemiology (Cr3)(3:0)
The course covers applications of epidemiologic methods and procedures to the study of the distribution and determinants of health and diseases, morbidity, injuries, disability, and mortality in populations. Students will be introduced to epidemiologic methods for the control of conditions such as infectious and chronic diseases, mental disorders, community and environmental health hazards, and unintentional injuries. Other topics include quantitative aspects of epidemiology, for example, data sources, measures of morbidity and mortality, evaluation of association and causality, and study design. Prereq. - MATH150 and PUBH101.

PUBH 103 Social and Cultural Perspectives of Health (Cr3)(3:0)
This course is designed to develop basic literacy regarding social and cultural ideals that influence health status and public health interventions. Students will be introduced to an ecological, multilevel theory of health, to illustrate how health is molded by various health determinants, including biology, individual behavior, social relationships, social stratification, institutions, communities, culture, the physical environment, policies, and globalization. Students will examine the causes and mechanisms in which health disparities occur and which populations are most at risk, leading to a greater understanding of the role of cultural competence in Public Health. Prereq. - MATH150 and PUBH101.

PUBH 201 Introduction to Global Health (Cr3)(3:0)
The course will introduce students to the critical links between global health and social and economic development. Students will have a basic overview of the determinants of health and how health status is measured. Students will review the burden of disease, risk factors, and key measures to address the burden of disease in cost-effective ways. Communicable and non-communicable diseases, as well as environmental, behavioral, and cultural influences, will be discussed. Global partnerships and advances in science to improve outcomes will also be addressed. Prereq.- PUBH102 and 103.

PUBH 202 Public Health Across the Life Span (Cr3)(3:0)
This course is designed to provide evidence based research of trends and developments in health throughout the life span, dealing with the prenatal period through senescence. The course will examine the health profiles of infants and small children (birth - 14 years), adolescents and young adults (15-24 years), adults (25-64 years), and older adults (65 years and older). This course will be conducted in a seminar format to foster a collaborative learning environment. Prereq.- PUBH102 and 103.

PUBH 203 Public Health Education Communication (Cr3)(3:0)
This course will provide students with a practical approach to understanding and applying principles of health education communication to a range of public health issues. Students will employ these concepts and skills for analyzing and evaluating current public health education communication campaigns. Students will create health education communication campaign products in both written and oral format. This course will be conducted in a seminar format to foster a collaborative learning environment. Prereq. - PUBH201 and 202.

PUBH 204 Community Health Practice (Cr3)(3:0)
This course is designed to study the theories and principles of public health promotion at the community level. Students will examine the assessment of population health and the planning, implementation and evaluation of health programs in community settings. Students develop and enhance their skills by designing and implementing a health promotion program in the college community. This course will be conducted in a seminar format to foster a collaborative learning environment. Prereq. - PUBH201 and 202.

PUBH 205 Public Health Field Experience (Cr5)(3:0:10)
This course is designed for Public Health majors as a pre-professional field experience of 150 hours to broaden the student's public health perspectives and provide experience in applying the theory and content learned in their public health coursework. It is expected that the field experience will afford students the opportunity to interact and collaborate with public health professionals and participate in actions that constitute public health. Integral to closing the loop on the learning process is the opportunity for students to reflect on the field experience. Students will meet weekly in a seminar format

class focused on sharing, comparing, and contrasting the different infrastructures and approaches they are observing and experiencing at each field location. Prereq. - PUBH201 and 202.

Quality (QUAL)

QUAL 210 Statistical Quality Control (Cr3) (3:0)
Controlling the output variability of the process and producing quality products and services using applied sampling and statistical process control; data collection SPC application, chart construction interpretation, process capability, and taking corrective action; use of spreadsheet and SPC software in data collection and analysis; and statistical experiments. Prereq. - Evidence of score of 500 or higher on SAT mathematics exam or 11th grade PSSA mathematics score of 1300 or higher, or completion of MATH 026 or 028 with C or better or appropriate competence in MATH 150 as determined by the mathematics placement test, and industrial experience or ENGG 125 or ELEC 177. Offered fall semester only.

QUAL 215 Quality Assurance (Cr3) (3:0)
Planning and analysis of quality; customer requirements identification, design review and processes, quality analysis and feedback techniques such as experimental models, process yields analysis, testing, reliability, audit practices, customer/supplier relations, and application of ISO 9000 series of quality standards. Offered spring semester only.

QUAL 221G Applied Quality Practicum (Cr3) (0:0:12 practicum)
Actual work experience in manufacturing or service organization providing exposure to the application of Quality methodology to its process, product or service; emphasis on cultural issues, documentation and data collection/reporting, auditing, ethics, and problem solving. Pre- or coreq. - QUAL 210, 215 and ENGL 101.

Radiography (RADT)

RADT 102 Fundamentals of Radiologic Sciences (Cr3) (3:0)
Students in the course will learn about the structure of the health care system, attitudes and communications, human diversity, professionalism and ethical behavior, infection control, medical emergencies, and medical terminology. Restricted to Radiography students or those without an RT background planning to enter the Sonography program. Program director's signature required. Offered fall semester only.

RADT 107 Clinical Practice I (Cr2) (0:0:16)
On-campus preparatory instruction for first, three-weeks in basic radiation protection, safety, body mechanics, nursing procedures, and an overview of medical ethics. Clinical rotations through the front desk, file room, transportation, general radiography, and fluoroscopy. This course consists of 240 hours of clinical experience. Restricted to Radiography students.

RADT 111 Radiographic Procedures I (Cr4) (3:3)
Students will perform radiographic procedures of the respiratory and abdominal systems, upper and lower extremities, shoulder and pelvic girdle using energized radiographic equipment. Images are performed on phantoms. Restricted to Radiography students. Coreq. - RADT 107. Additional course fees: $15.00. Offered fall semester only.

RADT 114 Introduction to Radiographic Imaging (Cr3)(3:0)
This course provides an introduction to radiographic imaging, exposure and an analysis of the factors that influence radiographic quality including photographic and geometric properties, image receptors and image processing. Restricted to Radiography students. Offered fall semester only.

RADT 117 Clinical Practice II (Cr2)(0:0:19)
Continuation of clinical education rotations in general radiography and fluoroscopy with an introduction to mobile radiography. This course consists of 280 hours of clinical experience. Restricted to Radiography students. Prereq. - RADT107. Offered spring semester only.

RADT 125 Sectional Anatomy for Medical Imagers (Cr1) (1:0)
Human anatomy in the transverse, longitudinal, and coronal planes with application to sonography and other imaging modalities in radiology. Restricted to Radiography and Sonography students. Runs with DMSG 125. Prereq. - BIOS 204; Pre- or coreq. - BIOS 254. Offered spring semester only.

RADT 147 Clinical Practice III (Cr4)(0:0:27)
Continued observation and application of the principles and procedures involved in general radiography and fluoroscopy; introduces mobile surgical radiography, IVP, and tomography procedures; includes a seminar on advanced procedures and related topics. This course consists of 408 hours of clinical experience. Restricted to Radiography students. Prereq. - RADT117. Offered summer only.

RADT 201 Advanced Imaging (Cr2) (2:0)
General techniques, procedures, and equipment pertinent to Interventional Radiography, MRI, Mammography and Bone Densitometry are studied. In depth CT fundamentals, positioning, patient prep and scanning procedures. Restricted to Radiography students. Prereq. - RADT 208. Offered spring semester only.

RADT 205 Pathology for Radiographers (Cr2) (2:0)
A study of the disease process affecting body organs and systems; stressing those areas most commonly encountered and demonstrated in diagnostic radiology. Restricted to Radiography students. Offered fall semester only.

RADT 207 Clinical Practice IV (Cr3) (0:0:24)
Continuation of Clinical Practice III, with rotations in general radiography, fluoroscopy, mobile and surgical radiography, IVP and tomography. This course consists of 360 hours of clinical experience. Restricted to Radiography students. Prereq. - RADT 147. Additional course fees: $45.00. Offered fall semester only.

RADT 208 Imaging Equipment and Radiation Production (Cr3) (3:0)
The course covers the x-ray circuit, permanent installation and mobile x-ray and fluoroscopic/image intensification units, automatic exposure control,

conventional tomography, magnification and electronic imaging along with the application of quality standard and quality control principles. The principles of x-ray production, interactions of photons with matter, technique formation, and exposure calculations will be applied through discussion. Restricted to Radiography students. Prereq.- RADT 114. Offered spring semester only.

RADT 210 Level II Radiographic Procedures (Cr4) (3:3)
Systematic study, demonstration and practice of radiographic procedures involving the sacro-iliac joints, vertebral column, bony thorax, skull, portable radiography, trauma radiography and pediatric studies using phantom plus simulated radiography. Restricted to Radiography students. Prereq. - RADT 111. Additional course fees: $15.00. Offered spring semester only.

RADT 217 Clinical Practice V (Cr3)(0:0:26)
Continuation of student clinical education with emphasis on increasing professional competency and review of previously acquired radiographic concepts and skills. This course consists of 392 hours of clinical experience. Restricted to Radiography students. Prereq. - RADT207. Offered spring semester only.

RADT 230 Radiation Biology/ Protection (Cr3) (3:0)
Biologic effects of ionizing radiation on human tissues, advanced radiation protection/safety, and federal/state regulations. Restricted to Radiography students.

RADT 242 Digital Imaging and Analysis (Cr2) (2:0)
The study of the components, principles and operation of digital imaging systems and the factors that impact image acquisition, display, and retrieval in radiology along with the principles of digital system quality assurance and maintenance. Restricted to Radiography students. Prereq.- RADT 208. Offered fall semester only.

RADT 250 Senior Review (Cr2)(2:0)
This course is intended to be a capstone experience in which students analyze, apply and evaluate the principles, concepts, and the art and science of medical imaging. Restricted to Radiography students. Prereq. - RADT207. Offered spring semester only.

RADT 291 Special Studies in Radiologic Technology (Cr1)
See Statement on Special Studies. Offered on demand. Restricted to Radiography students.

RADT 292 Special Studies in Radiologic Technology (Cr2)
See Statement on Special Studies. Offered on demand. Restricted to Radiography students.

RADT 293 Special Studies in Radiologic Technology (Cr3)
See Statement on Special Studies. Offered on demand. Restricted to Radiography students.

Reading (READ)

READ 016 Reading Fundamentals (Cr3) (2:2)
Lays the foundation for success with complicated text; provides the fundamental skills necessary to gain meaning from text materials. Prereq. - as determined by reading department placement test.

READ 017 Critical Reading (Cr3) (2:2)
Prepares students for success in English I and other core courses; students are guided through experiences designed to enhance their understanding of complicated text; readings taken from recent periodicals, and assignments designed to emphasize the importance of inferential thinking; the role prior knowledge plays in the learning of new information; the importance of summary writing as a check to comprehension. Prereq. - an 'R' in Reading Fundamentals or as determined by the reading department placement test.

Social Work (SCWK)

SCWK 101 Introduction to Social Work (Cr3) (3:0)
Introduction to social work as a profession; knowledge, values, and skills necessary for beginning level professional practice; academic and practice requirements for becoming a social worker; various fields of social work practice and the unique attributes of each; linkages between social work and other human service occupations; human diversity, client empowerment and social justice as common themes. Also available through Online Learning.

Sociology/Anthropology (SOCA)

SOCA 102 Cultural Anthropology (Cr3) (3:0)
The analysis of human culture as it has evolved to the present, covering theories and methods, cultural universals and variations in such areas as marriage and family, politics, economics, kinship, religion and the arts, with an emphasis on non-Western and non-industrial societies. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Core: SIT, D, CT.

SOCA 103 Principles of Sociology (Cr3) (3:0)
This course will introduce students to the concepts, methods, major theoretical perspectives and sub-fields of sociology. The goal of this course is to help students think critically about the world around them. Special attention will be given to the real-world application of sociological concepts. Prereq. - Reading and writing competence as determined for ENGL101. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Approved for the Honors Program. Core: SSHB, CT, D.

SOCA 105 American Ethnicity (Cr3) (3:0)
An exploration of the United States' ethnic diversity from a sociological perspective; history, present, and future of the social construction of race and ethnicity in the US; the impact of institutionalized power on the status of a variety of ethnic groups; contributions made by various ethnicities to the US. Prereq. - SOCA 103. Also available through Online Learning. Core: SIT,D.

SOCA 125 Sociology of Families (Cr3) (3:0)
This course is a sociological analysis of the family as a social institution including historical development, contemporary patterns in the United States, and possible future trends. Topics include the definition of family; families and work; love and sex; child-rearing, family violence; divorce and re-marriage; and variations in marriage and family patterns as related to culture, class, race, ethnicity, gender, and sexual orientation. Prereq. - SOCA 103. Course numbers ending with G are Writing Intensive (WI). Also available through Online Learning. Core: SSHB, D.

SOCA 150 Deviance (Cr3) (3:0)
A study of the varieties of deviant behavior and theoretical perspectives in Western culture, particularly American society. The history and development of these sociological phenomenon are examined in detail. Prereq. - SOCA103. Also available through Online Learning. Core: CT, D.

SOCA 160 Issues in Contemporary Genocide and Mass Violence (Cr3) (3:0)
This course explores the social origins and consequences of genocide in the 20^{th} and 21^{st} centuries. Students will study the theories and definitions of genocide as these are anchored in particular case studies (e.g. Rwanda, Bosnia, Darfur). The course culminates with an examination of ways to stop and prevent genocide as well as various ways to restore justice to victims. Core: SIT, D.

SOCA 204 Social Problems (Cr3) (3:0)
Current social problems in the United States examined from the major theoretical perspectives in sociology; substance abuse, crime and violence, family problems, ageism, sexism, racism, problems relating to work, education, urbanization, technology, health care, population and the environment. Prereq. - SOCA 103. Also available through Online Learning.

SOCA 210 Sociology of Gender (Cr3) (3:0)
This course is an exploration of the ways in which gender influences social life, institutions, and interactions. Students will also explore the continuing prevalence of gender, socialization, gender inequality, diverse gender experiences, and the influence of gender in major social institutions. Prereq. - SOCA 103. Core: SSHB.

SOCA 268 Independent Study in Equador (Study Abroad), (Cr3) (3:0)
The purpose of the independent study is to have a directed experience rooted in sociology, reflect in a scholarly way on the experience, and apply that experience to one's ongoing life, particularly civic action/understanding. The student and professor will design the course based on the student's learning interests. This will include study abroad and/or service learning experiences. Prereq.- SOCA 103. Core: SSHB.

SOCA 291 Special Studies in Sociology/ Anthropology (Cr1)
See Statement on Special Studies. Offered on demand.

SOCA 292 Special Studies in Sociology/ Anthropology (Cr2)
See Statement on Special Studies. Offered on demand.

SOCA 293 Special Studies in Sociology/ Anthropology (Cr3)
See Statement on Special Studies. Offered on demand.

Special Education (SPED)

SPED 160 Introduction to Special Education (Cr3) (3:0)
This course provides an overview of special education and disability perspectives. It addresses philosophical, historical, foundational, legal and research based aspects concerning the education of students with disabilities and their families. Using the Individuals with Disabilities Education Improvement Act (IDEA) and related federal and state laws as its framework, the course presents students with an overview of various disabilities, the special education process, and multiple educational approaches. Students are required to complete 10 (ten) hours of observing children in educational settings. Course may apply to PA's Credential of Competency for Special Education Paraeducators. Child Abuse Registry, Criminal Background Check, and FBI clearances are required. Also available through Online Learning.

SPED 164 Introduction to the Special Education Paraeducator (Cr3) (3:0)
This course provides the competences that support a qualified paraeducator. Using national and state standards as its framework, the course presents students with the varying roles and responsibilities of a paraeducator across multiple and diverse cultural and learning environments. Students are required to complete 30 (thirty) hours of field experience in an educational environment. Child Abuse Registry, Criminal Background Check, and the FBI clearances are required. Course may be applied to the PA's Credential of Competency for Special Education Paraeducators. This course is also available through Online Learning.

SPED 170 Instructional Strategies in Inclusive Environments (Cr3) (3:0)
This course addresses multiple and varied strategies and processes for educating all children. It addresses the diversity among learners regarding language, culture, and the educational environment in meeting individual needs. Child Abuse Registry, Criminal Background Check, FBI clearances required. Course may be applied to Pennsylvania's Credential of Competency for Special Education Paraeducators. Also available through Online Learning. Prereq:- SPED 160.

SPED 175 Behavior Support (Cr3) (3:0)
This course provides an overview of positive behavior support practices used in educational environments. It considers the purpose of behavior and the positive approaches for preventing and responding to behavioral challenges in the classroom. Prereq:- SPED 160. Also available through Online Learning.

SPED 205G Special Education Paraeducator Internship (Cr3) (2:10)
Students in this course are placed in an educational setting to do an intensive internship under the supervision of a certified teacher. This capstone experience allows students to synthesize and apply the knowledge, skills, and competencies gained in all prior coursework. Students are required to complete 150 (one hundred and fifty) hours, (10 hours per week), in an educational setting with children with disabilities. Child Abuse Registry,

Criminal Background Check, and FBI clearances are required. Prereq:- SPED 160, 164, 170, 175 and ENGL 101. Also available through Online Learning.

Sport Management (SPRT)

SPRT 101 Introduction to Sport Management (Cr3) (3:0)
Effective sport management strategies and the wide variety of sport-related careers; definitions and directions of sport management, careers and options in sport management, and sport sociology, psychology, philosophy, and the modern history of both sport and management. Also available through Online Learning.

SPRT 152G Sports in Society (Cr3) (3:0)
Social processes that explain the pervasiveness and appeal of sport primarily in American culture; effects of sport on behavior and lifestyles of active and passive participants; investigation of historical developments and assessment of interrelationships among sport, culture, and major social institutions such as family, business, education, politics and religion. Prereq.- ENGL 101. Also available through Online Learning.

SPRT 162 Facility Management and Event Planning (Cr3) (3:0)
An overview of facility management and event planning in the sport environment; an introduction to management theory and practice in relation to sport venues and the organization and planning of a sport industry-related event. Facility development, facility systems and operations, facility administration and event and activity management will be the focus. Also available through Online Learning.

Sports Medicine and Rehabilitation Sciences (SMAT)

SMAT 101 Foundations of Sports Medicine and Rehabilitation Sciences (Cr3) (3:0)
This course provides an introduction to sports medicine and rehabilitation sciences. Students will be introduced to the roles of various disciplines within sports medicine and rehabilitation sciences as well as other allied health professions. The course examines the competencies and proficiencies, education requirements, certification requirements, continuing education requirements, and interpersonal skills important to uphold the standards of practice of the various health professions. Coreq.- ENGL101. Offered fall semester only.

SMAT 202 Kinesiology: Applied Anatomy (Cr3) (3:0)
This course is an introduction to the analysis of human movement based on anatomical and mechanical principles. Emphasis is placed on the anatomy and physiology of the muscular, skeletal, and nervous systems and their interaction in human movement and athletic performance. Restricted to Sports Medicine and Massage Therapy majors.

SMAT 230 Prevention and Management of Injury and Illness (Cr3) (3:0)
This course provides an introduction to the prevention, evaluation, and treatments of injury and illness. Emphasis is placed on learning musculoskeletal anatomy and recognizing common signs and symptoms of injuries, illnesses, and disorders commonly seen in the physically active population. Restricted to Sports Medicine majors. Prereq.- SMAT 101; Pre- or Coreq. - BIOS 204; Coreq.- SMAT 235. Offered spring semester only.

SMAT 235 Basic Sports Medicine and Rehabilitation Sciences Techniques (Cr1) (0:2)
This course focuses on the application of psychomotor competencies and clinical proficiencies essential to becoming a sports medicine or rehabilitation sciences professional. As an introductory course, content emphasizes developing skills in injury prevention, injury and illness assessment, and using appropriate terminology and medical documentation to record injury and illness. Restricted to Sports Medicine majors. Prereq.- SMAT 101; Pre- or Coreq. - BIOS 204; Coreq.- SMAT 230. Offered spring semester only.

SMAT 245G Acute Care of Illness and Injury (Cr3)(3:1)
Students will focus on acute management skills of common injuries and illnesses that active individuals commonly incur. This comprehensive course prepares students to evaluate and stabilize an athlete in a variety of emergency situations. Students will acquire the skills necessary to respond to the following emergencies: catastrophic injury to the head and neck, cessation of breathing and circulation, shock, concussion, general medical emergencies, heat and cold illnesses, internal injuries, and other life threatening or serious injury. Course includes certification on first aid, CPR for the professional rescuer and AED use. Restricted to Sport Medicine/Athletic Training students. Prereq. - ENGL101 and SMAT230. Core: WI. Offered spring semester only.

SMAT 260 Exercise Physiology and Exercise Prescription (Cr3) (3:0)
This course will provide an introduction into concepts of exercise physiology. Students will develop an understanding of the acute physiological and chronic adaptations of the body to exercise. Neuromuscular, metabolic, cardiovascular, hormonal, and respiratory system will be examined. Emphasis will be placed on exercise testing and exercise prescription to prepare students to sit for nationally recognized personal training and health fitness instructor exams. Restricted to Sports Medicine majors. Prereqs.- BIOS 254. Offered spring semester only.

SMAT 280 Measurement and Evaluation of the Lower Extremity (Cr3) (2:2)
This course provides an in-depth examination of the evaluation of common injuries sustained by active individuals in the lower extremity. Students will gain practical knowledge and skills in orthopedic evaluation of the foot, ankle, shin, knee, thigh and hip areas. All components of a complete and thorough evaluation will be covered including but not limited to: injury history, observation, range of motion, muscle testing and special tests. Emphasis will be placed on the critical thinking and problem solving skills associated with the evaluation process. Restricted to Sports Medicine/Athletic Training students. Prereq. - SMAT230. Offered summer only.

SMAT 285 Sports Medicine and Rehabilitation Sciences Clinical Experience Laboratory (Cr2) (2:0)
This course will enhance the clinical skills of students through hands on laboratory instruction and an observational field experience. Students will develop knowledge and skills associated with therapeutic modalities, therapeutic exercise, taping and bracing, wound management, injury/illness evaluation, and protective equipment. Emphasis will be placed on the development of psychomotor proficiencies required by Sports Medicine and Rehabilitation Science professionals learned in previous coursework. Restricted to Sport Medicine Majors. Prereq. - SMAT230. Offered fall semester only.

Veterinary Technician (VETC)

VETC 101 Veterinary Anatomy & Physiology (Cr4) (3:3)
Introduction to biochemistry, cell biology and histology, survey of the structure and function of domestic animals using a systems approach; physiology of domestic animals will be handled primarily in the lecture, while the anatomy will be discussed in the laboratory with the dissection of the cat as the primary tool. Prereq. - grade of B or better in high school biology within 5 years or BIOS 107. Additional course fees: $15.00.

VETC 110 Introduction to Veterinary Technology (Cr3) (3:0)
An introduction to the vocation of veterinary technology; orientation to professional organizations, practice management skills, client relations, medical terminology, ethics, legal and occupational issues; role of the veterinary technician in veterinary medicine, research, industry and private practice. Prereq. - admission into Veterinary Technician program.

VETC 115 Animal Management and Nutrition (Cr2) (2:0)
Management of domestic species; animal husbandry, reproduction, restraint, behavior, breed identification and preventative medicine; nutrition and feeding;animal management and feeding in an economic context. Prereq. - admission into Veterinary Technician program.

VETC 120 Veterinary Parasitology (Cr2) (1:3)
Clinically significant internal and external parasites of domestic animals; mites, lice, ticks, fleas, flies, nematodes, cestodes, trematodes and protozoans; parasite life cycles, host infection and pathology; prevention and treatment of parasitic infections; diagnosis via sample collection, preparation and microscopic evaluation during the lab section. Prereq. - admission into Veterinary Technician program. Additional course fees: $15.00.

VETC 125 Veterinary Clinical Laboratory Techniques (Cr4) (3:3)
Laboratory evaluation of various diagnostic samples including blood, urine and cytologic specimens; hematology, serum chemistry, serology, urine analysis and cytology as applied to veterinary medicine; laboratory work focusing upon lab technique and manual processing of samples; lecture focusing upon the indication for and interpretation of clinical pathology indices associated with disease states and immunologic function. Prereq. - admission into Veterinary Technician program and CHEM 135. Additional course fees: $15.00.

VETC 210 Large Animal Clinical Procedures (Cr3) (2:3)
Eight-week laboratory course conducted at the Vet Tech barn/animal facility, designed to provide students with hands-on experience in large animal clinical procedures; restraint, physical examination, venipuncture, administration of medications via various routes, wound treatment, bandaging, sample collection, radiology and general husbandry procedures; species include cow, horse, sheep and goat. Attendance is mandatory. Prereq. - all the following: 1) admission into Veterinary Technician program, 2) proof of vaccination: rabies and tetanus, 3) proof of health insurance, 4) VETC 101, 110 and 115. Additional course fees: $85.00.

VETC 215G Animal Disease (Cr3) (3:0)
Provides students with a broad-based understanding of animal medicine and disease; pathogens, host pathology, diagnosis, treatment and prevention for large and small animal species; provides the necessary context in which to understand the "why" of doing diagnostic and therapeutic procedures. Principles of disease in large and small animal species; clinical symptomology, diagnosis, therapy, epidemiology, prevention of common diseases; toxicology, zoonotic diseases and medical emergencies; course organized around body systems and associated pathologic conditions. Prereq.- all of the following: 1) admission into Veterinary Technician program, 2) VETC 101, 110 and 125, 3) ENGL 151C.

VETC 218 Veterinary Pharmacology and Anesthesia (Cr3) (3:0)
Veterinary technicians will spend a significant portion of their time in both the veterinary pharmacy dispensing medication and in surgery serving as assistants and anesthetists. Students receive the theory of basic pharmacology and anesthesiology in this course and receive hands-on experience in a subsequent course. Theory and application of pharmacology and anesthesiology; pharmacologic principles including: drug administration, distribution, excretion and individual variability; drug side-effects, dosing and general pharmacologic calculations; pre-anesthesia patient assessment, pre-anesthetic drugs, induction, maintenance and post-operative patient monitoring; students work with various types of anesthetic equipment, operate anesthesia machines, EKG unit and a pulse oximeter. Prereq. - all the following: 1) admission into Veterinary Technician program, 2) CHEM 135, 3) VETC 101, 110, and 125.

VETC 220 Small Animal Clinical Procedures (Cr4) (1.5:4)
Provides students with hands-on experience conducting diagnostic and therapeutic procedures with small animals; students entering the job market must be able to easily make the transition from academic institution to the workplace; essentials in animal restraint and basic procedures; some basic specialty examinations. Laboratory course geared toward a variety of clinically relevant diagnostic and therapeutic procedures with small animal species; restraint, physical examination procedures, venipuncture, administration of medications, sample collection and general first aid and emergency care; students develop their technical skills in a veterinary setting. Attendance is mandatory. Prereq. - all the following: 1) admission into Veterinary Technician program, 2)proof of vaccination: rabies and tetanus, 3) proof of health insurance, 4) VETC 101, 110 and 125. Additional course fees: $15.00.

VETC 225 Veterinary Radiology and Surgical Nursing (Cr4) (3:4)
Course designed to develop technical competence in diagnostic radiology, surgical nursing, anesthesia, and dentistry. The principles learned in previous courses will be applied in a veterinary setting using live animals patients. There will be an overview of the basic principles of radiology: use and maintenance of radiographic/imaging equipment, restraint and positioning of small animals and the development of diagnostic radiographs. In addition, student will be troubleshooting for poor quality films. Record keeping and safety issues will be discussed. The general principles of surgical assisting including aseptic technique, operating room protocol and surgical assisting by the veterinary technician; surgical instrumentation, surgical instrumentation and surgical preparation will be discussed and practiced. Pre, intra- and post-operative anesthetic nursing will be learned; students will perform anesthesia on small animals and perform prophylactic dentistry. Attendance is mandatory. Prereq. - all the following: 1) admission into Veterinary Technician program, 2) proof of health insurance, 3) proof of vaccination: rabies and tetanus, 4) VETC 101, 110, 125, 218 and 220.Additional course fees: $50.00.

VETC 228 Laboratory Animal Science and Exotics (Cr4) (3:3)
Due to the variety of job placement options, students must be prepared to work with laboratory animal and exotic species. Course provides foundation in

lab animal medicine and disease; use and care of laboratory and research animals; laboratory animal biology, science and management; anatomy and physiology, nutrition, breeding, husbandry, sanitation, behavior, handling, nursing, euthanasia and necropsy; animal welfare regulations and ethics issues. Lecture, discussion, and laboratory sessions to provide hands-on experience with venipuncture, injections, gavage and necropsy; species include rats, mice, guinea pigs, rabbits and reptiles; exotic animal portion includes restraint, examination, medicine and disease and husbandry; species of exotics will vary with availability. Attendance is mandatory. Prereq. - all the following: 1) admission into Veterinary Technician program, 2) proof of health insurance, 3) proof of vaccination: rabies and tetanus, 4) VETC 101 and 115. Additional course fees: $15.00.

VETC 230 Veterinary Technician Externship (Cr3) (0:community placement)
Ten-week practicum conducted off campus at two designated (veterinary) community sites. This capstone experience is aimed at providing students the opportunity to integrate the academic knowledge, critical thinking and technical skills developed during the program and directly apply and refine them in a work setting. It will also serve as an opportunity to explore career options. Students must extern for a total of 240 hours during the 10 week summer term. Students must perform 120 hours at each of two sites. Externs must provide proof of vaccination (rabies, tetanus) and current health insurance. Students are responsible for transportation and any required housing arrangements. The college will be responsible for monitoring radiation exposure of externs. Prereq. - successful completion of all veterinary technology courses with a grade of C or better. Additional course fees: $70.00.

Welding Technology (WELD)

WELD 100 Welding Processes I (Cr2) (1:2)
Concepts and techniques in basic arc welding; hands-on experience in flat position shielded metal arc welding; safety practices; defect prevention approach. Formerly WELD 800.

WELD 101 Welding Processes II (Cr1) (0.5:1.0)
Technical information and experience in horizontal position shielded metal arc welding (SMAW); problem solving and defect analysis; proper use of oxy-fuel cutting apparatus; safety practices. Formerly WELD 101. Prereq. - WELD 100.

WELD 102 Welding Processes III (Cr1) (0.5:1.0)
Technical information and experience in vertical position shielded metal arc welding (SMAW); problem solving and defect analysis; safety practices; code information pertinent to welder certification per ANSI/AWS D1.1 (Structural Welding-Steel). Formerly WELD 802. Prereq. - WELD 101.

WELD 103 Welding Processes IV (Cr1) (0.5:1.0)
Technical information and experience in overhead position shielded metal arc welding (SMAW); torch brazing; problem solving and defect analysis; safety practices. Formerly WELD 803. Prereq. - WELD 102.

WELD 105 Introduction to Welding Processes (Cr5) (2:6)
This course covers the technical concepts, various techniques, defect analysis, and safety practices in welding. Hands-on experience using shielded metal arc welding (SMAW) in all positions and cutting steel using oxy-fuel cutting apparatus. Technical concepts include code information pertinent to welder certification per ANSI/AWS D1.1 (Structural Welding-Steel). Additional course fees: $300.00.

WELD 110 Introduction to Pipe Welding Processes (Cr3) (1:5)
An introduction to the pipe welding process using Shielded Metal Arc Welding (SMAW) in the 2G, 5G, & 6G positions of grooved joints on pipe with and/or without the use of backup material on steel. The emphasis on defect prevention, weld analysis, techniques, problem solving, and code information pertinent to certification will be stressed throughout the course. Pre- or coreq.- WELD123Additional course fees: $150.00.

WELD 115 Weld Symbol Applications (Cr2) (2:0)
Reading and interpreting typical welding drawings including symbology for joints, fillets, groove, surface, flange, and other weld types; brazed joints; nondestructive testing symbols; related shop math review. Formerly WELD 815. Offered summer only.

WELD 120 Gas Tungsten Arc Welding Processes (Cr2) (1.4:1.3)
Advanced technical information and experience in Gas Tungsten Arc Welding (GTAW) and cutting processes using standard and programmable equipment; problem solving; defect analysis; troubleshooting equipment. Prereq. - WELD 103.

WELD 121 Semiautomatic Welding Processes (Cr2) (1.4:1.3)
Advanced technical information and experience in using most semiautomatic welding processes involving standard and programmable equipment; problem solving; defect analysis; troubleshooting equipment. Formerly WELD 821. Prereq. - WELD 103.

WELD 123 Advanced Plate Welding Processes (Cr5) (2:6)
Skill development in Shielded Metal Arc Welding (SMAW) using all position grooved joints on plate with and without the use of backup material on steel; emphasis on defect prevention, weld analysis techniques, problem solving, skill development and code information pertinent to certification. Formerly WELD 823. Prereq. - WELD 105. Additional course fees: $200.00.

WELD 124 Advanced Pipe Welding Processes (Cr2) (1:2)
Skill development in Shielded Metal Arc Welding (SMAW) using 2G, 5G and 6G positions of grooved joints on pipe with and/or without the use of backup material on steel; emphasis on defect prevention, weld analysis, techniques, problem solving, and code informational pertinent to certification. Formerly WELD 824. Prereq. - WELD 123.

WELD 125 GTAW and Semiautomatic Welding Processes (Cr5) (2:6)
This course covers the advanced technical information and experience in Gas Tungsten Arc Welding (GTAW), Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW), Submerged Arc Welding (SAW) and cutting processes using standard and programmable equipment, along with Torch Brazing (TB), problem solving; defect analysis; trouble shooting equipment. Prereq. - WELD105. Additional course fees: $150.00.

WELD 135 Welding Fabrication and Symbols (Cr2) (1:2)
This course covers reading welding and structural drawings which includes interpreting weld symbols on welding details. Students will also develop

fabrication skills including basic layout, measuring, and utilization of various welding processes. Pre- or coreq. - WELD105 Additional course fees: $50.00.

WELD 205 Advance Gas Tungsten & Semiautomatic Welding Processes (Cr4) (2:4)
This course introduces the student to the advanced pipe welding processes on steel pipe and nonferrous materials, using Gas Metal Arc Welding (GMAW) and Gas Tungsten Arc Welding (GTAW) for grooved pipe joints in the 2G, 5G, & 6G positions. The emphasis is on defect prevention, weld analysis, techniques, problem solving, and code information pertinent to certification. Prereq. - WELD110 and 125. Additional course fees $150.00.

WELD 224 Pipe Welding Processes II (Cr3) (1:4)
This course is designed to develop advanced pipe welding skills using Shielded Metal Arc Welding (SMAW) in the 2G, 5G, & 6G positions of grooved joints on steel pipe. The emphasis is on defect prevention, weld analysis, advance techniques, problem solving, and code information pertinent to certification. Interpreting common piping drawings and prints and determining the required components for piping systems are covered. Prereq. - WELD110. Additional course fees: $150.00.

WELD 230 Welding & Structural Blueprint Reading (Cr4) (2:4)
This course introduces the process of interpreting and communicating information found on welding, and construction drawings. In addition, the course covers the design and fabrication of welded and bolted column and beam connections with consideration to the axial, shear, and torsional loads in structural elements. Prereq. - WELD123. Additional course fees $150.00.

WELD 235 Welding Inspection (Cr4) (2:4)
This course introduces the student to the duties and responsibilities of a welding inspector, quality assurance/quality control of welds, and use of welding cods in the inspection process. The course also covers various destructive and nondestructive testing used to validate the integrity of welds. Prereq. - MATH103, WELD205; Pre-or coreq. - WELD255G. Additional course fees $70.00

WELD 245 Plasma Arc Cutting (Cr3) (2:2)
This course covers the technical concepts, various techniques, and safety practices in the use and operation of plasma arc cutting equipment, both hand and CNC. The fundamentals of CNC (Computer Numerical Control) programming language structure and operation, editing procedures, and program commands and functions are covered. Prereq. - CISC101, MATH103 and WELD123. Additional course fees $70.00.

WELD 255G Introduction to Metallurgy (Cr3) (2:2)
This course covers the study of the physical, chemical and mechanical properties of ferrous and non-ferrous metals. Specific topics include mechanical testing, welding metallurgy, heat treatment, and nondestructive examination. The laboratory component of the course covers standard methods for determining the properties of common materials. This course also introduces the standards for interpreting, analyzing, and documenting research and experimental data within engineering and technical communities. Prereq. - ENGL151, MATH103, PHYS152 and WELD205. Additional course fees: $70.00