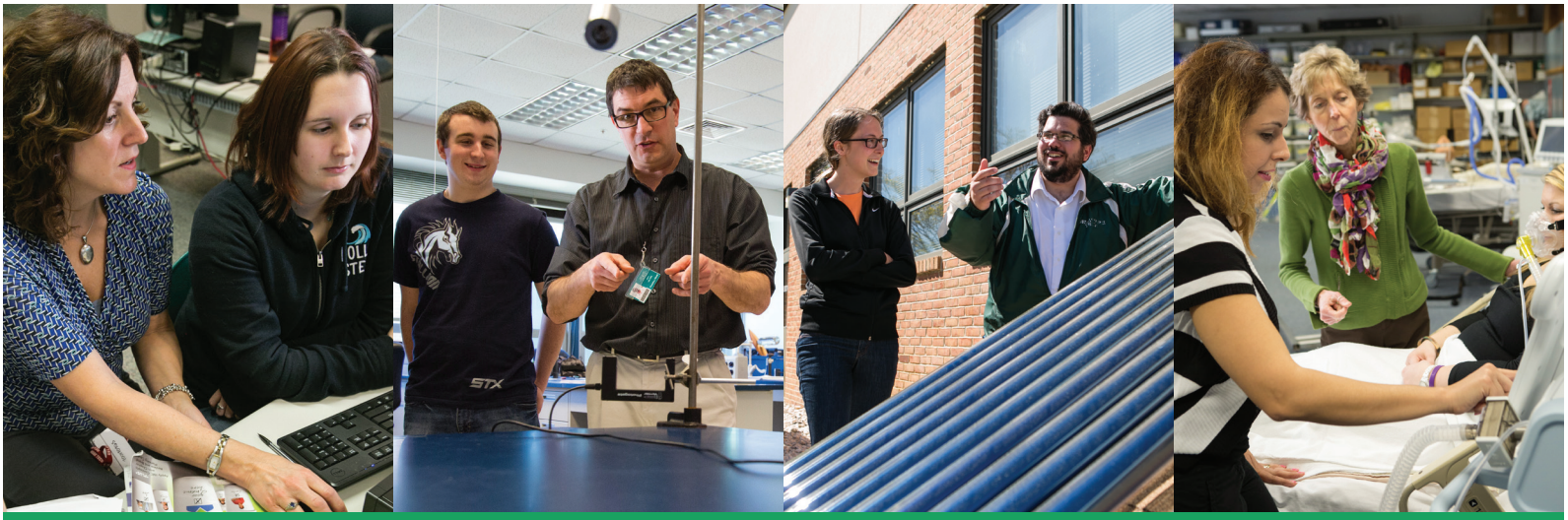
COLLEGE CATALOG | 2013-2015



DELAWARE TECHNICAL COMMUNITY COLLEGE

SUMMER/FALL 2014

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An Equal Opportunity Institution

STATEMENT OF NONDISCRIMINATION POLICY

It is the policy of the College that no person shall, on the basis of race, color, creed, sex, national origin, age-disability, sexual orientation (defined exclusively as heterosexuality, homosexuality, or bisexuality), or genetic information be subjected to any discrimination prohibited by the Civil Rights Act of 1964, as amended; the Age Discrimination in Employment Act, as amended; Americans with Disabilities Act, as amended; Section 504 of the Rehabilitation Act of 1973; Title IX of the Educational Amendments of 1972; the Genetic Information Nondiscrimination Act of 2008 and other applicable laws, regulations and Executive Orders. This policy applies to recruitment, employment and subsequent placement, training, promotion, compensation, continuation, probation, discharge and other terms and conditions of employment over which the College has jurisdiction as well as to all educational programs and activities.

The College has designated a Civil Rights Coordinator, who serves as the College's Title IX Coordinator and the College's ADA/Section 504 Coordinator, to carry out its commitment to equal opportunity and nondiscrimination. Inquiries or complaints by students or employees regarding the College's nondiscrimination policies may be addressed to:

Barbara Mignon Weatherly, Esq.
Civil Rights Coordinator, Office of the President
P.O. Box 897
Dover, DE 19903
(302) 857-1903
civilrights@dtcc.edu

POLICY STATEMENT ON SEXUAL HARASSMENT

All students have a right to attend the College in an environment that is free of discrimination and sexual harassment. Therefore, it is the policy of the College that no student may sexually harass another member of the College community while present on any property owned or controlled by the College or while participating in any College-related activity or event.

Unwelcome sexual advances, requests for sexual favors, and other verbal, written, or physical conduct of a sexual nature constitute sexual harassment when:

1. Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's education; or
2. Submission to or rejection of such conduct by an individual is used as the basis for academic decisions affecting that individual; or
3. If non-physical, such conduct is so severe, pervasive, and objectively offensive that the victim is effectively denied equal access to the College's resources and opportunities.

Sexual harassment may involve individuals of the same or different gender. Sexual harassment is most frequently associated with those situations in which a power differential exists between persons involved; however, it also may occur between individuals of the same College status, i.e., student-student.

The College is also committed to the principles of free expression and academic freedom. Delaware Tech encourages academic exploration and recognizes that our campuses contribute to the marketplace of ideas. Consistent with the College's academic mission, this Student Sexual Harassment Policy is not intended to restrict student speech protected by the First Amendment to the Constitution in the academic setting. However, non-physical expressive activity that is so severe, pervasive, and objectively offensive that the victim is effectively denied equal access to the College's resources and opportunities is not legally protected and does not promote free inquiry on our campuses.

Examples of severe and pervasive non-physical conduct, which may constitute sexual harassment when such expression is so objectively offensive that it denies the victim equal access to the College's resources and opportunities include, but are not limited to:

1. Unwelcome sexual advances, requests for sexual favors, or other non-physical conduct of a sexual nature;
2. Sexually explicit statements, comments, questions, pictures, objects, jokes, or anecdotes;
3. Unwelcome use of the electronic mail or telephone communication system to communicate prohibited conduct or activities; or
4. Graphic comments about a person's clothing or body.

However, physical conduct, such as unwelcome touching, patting, hugging, and sexual assault, is not protected under free speech principles and need not be repeated in order to constitute sexual harassment. Thus, physical conduct of a sexual nature results in sexual harassment when it is unwelcome, intentional, and so severe and/or pervasive that it denies the victim equal access to the College's resources and opportunities under the circumstances presented.

Sexual harassment is a violation of the Student Rights and Standards of Student Conduct Policy and will not be tolerated by the College. Sexual harassment complaints involving a student will be resolved according to the Procedure for the Resolution of Student Sexual Harassment Complaints as contained in the Student Handbook.

Any student that violates this Policy will be subject to disciplinary action including, but not limited to, dismissal from the College. In addition, the College reserves the right to notify law enforcement authorities of incidents of sexual harassment alleged to have occurred on any property owned or controlled by the College or during any College-related activity or event upon reasonable belief that such incidents rise to the level of criminal activity.

PROCEDURE FOR THE RESOLUTION OF STUDENT SEXUAL HARASSMENT COMPLAINTS

It is the policy of the College that no student may sexually harass another member of the College community while present on any property owned or controlled by the College or while participating in any College-related activity or event. The College does not tolerate sexual harassment and is firmly committed to resolving sexual harassment complaints in a prompt and equitable manner.

As a result, the College has adopted the following procedures to provide an internal mechanism to resolve sexual harassment complaints. These procedures shall be utilized whenever a student is accused of sexual harassment by another student, employee, or third party in violation of the College's Policy Statement on Student Sexual Harassment. Employees who are accused of sexually harassment by a student shall be subject to the Procedure for the Resolution of Sexual Harassment Complaints Against An Employee as contained in Section XIII of the College's Personal Policy Manual.

No individual shall be subject to retaliation at any time for making a claim of sexual harassment or for participating in these procedures. It is a violation of College policy for any member of the College community to retaliate against the Complainant, any individual who participates in any sexual harassment investigation or proceeding, or against the Respondent who has been accused of engaging in sexual harassment. While all sexual harassment allegations will be reviewed in accordance with these procedures, the College Community is advised that a claim of sexual harassment is not proof of prohibited conduct. Anyone who believes that he/she has been subject to retaliation arising from sexual harassment allegations is encouraged to report such behavior to a College official as set forth below. Students accused of engaging in retaliatory conduct shall be subject to the College's Student Rights and Standards of Student Conduct Policy and the disciplinary action set forth therein, up to and including dismissal from the College.

Making a false or malicious accusation of sexual harassment and/or retaliation is also prohibited by the College. A student who is found to have made an allegation of sexual harassment against another student or employee that is intentionally false, or made in reckless indifference or disregard for the truth, shall be subject to the College's Student Rights and Standards of Student Conduct Policy and the disciplinary action set forth therein, up to and including dismissal from the College.

Additionally, at any stage of these procedures, the Dean of Student Affairs at the campus where the alleged sexual harassment and/or retaliation is alleged to have occurred (hereinafter the "Dean") shall have the authority to take any and all reasonable steps necessary to protect all parties involved under these procedures from harassment and retaliation. The occurrence or non-occurrence of any protective measure initiated by the Dean is neither an indicia of guilt nor innocence under these procedures. Any such steps taken by the Dean to protect members of the College community from harassment and retaliation shall be final pending the resolution of the allegation as set forth under these procedures.

Furthermore, these procedures, and all aspects thereof, will be kept confidential to the maximum extent provided by state and federal law, including, but not limited to, the Family Educational Rights and Privacy Act ("FERPA"). The College will take all reasonable steps to investigate and respond to complaints in a confidential manner. Complainants, however, are advised that the College's ability to investigate and to respond to complaints may be limited in circumstances where the Complainant does not wish to disclose his or her identity. The College reserves the right to notify law enforcement authorities about allegations of sexual harassment upon reasonable belief that such incidents rise to the level of criminal activity. The use of these procedures does not preclude a Complainant from seeking recourse through the appropriate state or federal criminal law enforcement agencies at any time. College personnel will assist the Complainant in notifying these authorities in the event that the Complainant requests such assistance.

Reporting Procedures

The College encourages any student who believes that he/she has been a victim of sexual harassment at the College to report the offensive conduct to a College

official as soon as possible. For purposes of these procedures, a College official shall include any faculty member, academic counselor, administrator, or Public Safety Officer on the campus where the conduct is alleged to have occurred. Students may also contact the College's Civil Rights Coordinator to report incidents of alleged sexual harassment.

The College's Civil Rights Coordinator shall be notified of all claims of sexual harassment involving a student as soon as reasonably practical. The Civil Rights Coordinator shall promptly appoint a Sexual Harassment Review Officer ("Review Officer") from the campus where the conduct is alleged to have occurred to investigate the claim. The Review Officer shall advise the alleged offender that a complaint of sexual harassment has been filed against him/her and explain the College's prohibition against retaliation. The Review Officer shall document receipt of the complaint by letter or other written communication to the alleged offender and to the Complainant, a copy of which shall also be provided to the Dean and to the College's Civil Rights Coordinator. The Review Officer shall investigate the complaint to determine whether or not there are sufficient grounds to support a charge of sexual harassment as set forth in the College's Policy Statement on Student Sexual Harassment. The Review Officer shall encourage and/or assist the Complainant to reduce his/her claims to writing, which shall serve as the basis for the complaint of sexual harassment. Whenever possible, the investigation shall include interviews with both parties involved in the complaint and/or may include interviews with individuals who may have observed the alleged conduct or may have relevant knowledge of the incident. The Review Officer shall also have access to such written documents in the possession of the College, including student records, that he/she believes may contain relevant information or which may lead to the discovery of relevant information.

The Review Officer shall make a written determination regarding whether or not sufficient evidence exists which, if true, would constitute sexual harassment. All evidence shall be viewed by the Review Officer in the light most favorable to the Complainant when making the determination of whether or not a claim has been stated or substantiated. The determination shall be made within ten (10) working days following the Review Officer's appointment, include the grounds and findings upon which the determination was based, and be delivered to the parties, the Dean, and the College's Civil Rights Coordinator. In extenuating circumstances, including but not limited to those incidents that require evidence gathering by law enforcement officials, the Review Officer may extend the ten (10) working day deadline to make the determination. The parties, as well as the Civil Rights Coordinator, shall be notified in writing by the Review Officer about the reasons for the delay and the time frame in which the determination shall be made.

The Complainant may appeal a determination that insufficient evidence exists to support a claim of sexual harassment to the Civil Rights Coordinator. An appeal must be submitted in writing within ten (10) working days following the date of the Review Officer's determination. The decision of the Civil Rights Coordinator regarding the sufficiency of the allegations, or the evidence in support thereof, shall be final.

In the event the Civil Rights Coordinator determines that further proceedings are warranted, the Complainant shall be offered the opportunity to mediate the claim or to have the matter submitted to the Dean for a Sexual Harassment Review Committee Hearing.

Note: Mediation is not required to resolve a sexual harassment complaint. The Complainant may end mediation at any time in favor of a Sexual Harassment Review Committee Hearing. In addition, mediation is not available to resolve claims involving allegations of sexual violence as defined by state and/or federal law.

Mediation

Mediation is an informal and confidential way for the parties to resolve the complaint with the help of the Review Officer. The Review Officer will not decide who is right or wrong or issue a decision. Instead, the Review Officer will help the parties work out their own voluntary solution to the complaint.

Mediation should begin as soon as reasonably practical following an election by the Complainant but in no event greater than 10 working days absent agreement by the Complainant or extenuating circumstances that make commencement of the process impractical within the 10 day limit. Except as limited by the foregoing, in the event efforts to mediate do not begin within 10 working days, then the matter shall proceed to a Sexual Harassment Review Committee Hearing. Examples of such mediated options include, but are not limited to:

A. One or more meetings between the Complainant and the Respondent, mediated by the Review Officer, to discuss and resolve the alleged sexual harassment to the satisfaction of both parties.

B. In the event that the Complainant does not wish to confront the Respondent, one or more meetings in which the Review Officer meets separately with the Complainant and the Respondent to discuss options to resolve the matter. The Review Officer shall notify the parties in writing if a settlement is reached, and shall attach a proposed form of agreement for signature. The failure or refusal of a party to execute the agreement within a reasonable time shall result in the matter proceeding to a Sexual Harassment Review Committee Hearing.

C. An agreement between the parties and delivered in writing to the Review Officer containing: 1) a statement describing the alleged sexual harassment and requesting that such alleged conduct stop, signed by the Complainant; and 2) and acknowledgement of the complaint without admission of guilt and affirmation that the Complainant will not be the subject of sexual harassment in the future, signed by the Respondent.

Mediation may be discontinued: at any time by the Complainant; by the Review Officer, when he/she feels that further efforts will be non-productive; or when a voluntary agreement has been reached. The Review Officer shall prepare a written report documenting the success or failure of mediation to the Civil Rights Coordinator, the Dean, and the parties. If the mediation results in a voluntary settlement, a copy of the agreement, signed by the parties, shall be included, together with a statement that the College considers the matter to be closed. In the event that mediation resolves the matter, all documentation arising out of the allegation of sexual harassment, including the mediation agreement shall be separated from the student's educational file. In the event mediation is unsuccessful, the matter shall proceed to a Sexual Harassment Review Committee Hearing.

Sexual Harassment Review Committee Hearing

A Sexual Harassment Review Committee shall hear and determine claims of sexual harassment against a student in situations where mediation is not available, unsuccessful, or declined by the Complainant. The Committee shall consist of the Civil Rights Coordinator, who shall serve as the Committee Chairperson, one Sexual Harassment Review Officer on the campus who was not involved in the investigation of the allegation; and the Dean.

The College Civil Rights Coordinator shall provide written notice to the parties of the date, time, and place for the Sexual Harassment Review Committee hearing. Such notice shall also include the following:

1. A copy of the complaint or a summary of the allegations;
2. A copy of the Review Officer's report; and
3. A summary of the rules that will govern how the hearing will be conducted.

Absent extenuating circumstances, or an agreement by the parties, the hearing shall take place within ten (10) working days following receipt of notification from the Review Officer that mediation was unsuccessful, unavailable or declined by the Complainant. The role of the Committee shall be to hear and consider testimony and other relevant, reliable evidence and make findings of fact related thereto. In addition, the Committee shall be charged with determining by a preponderance of the evidence whether or not a violation of the College's Policy Statement on Student Sexual Harassment has occurred.

The Committee shall submit a written report to the parties setting forth the findings of fact and its determination as to whether a violation of the College's Policy Statement on Student Sexual Harassment has occurred within five (5) working days following the conclusion of the hearing. In the event a violation is found to have occurred, the report shall also include a recommendation of appropriate relief and/or disciplinary action, up to and including dismissal from the College.

The Committee's decision may be appealed by either party to the Vice President and Campus Director at the campus where the conduct is alleged to have occurred (hereinafter the "Campus Director"). The Committee's decision shall be final unless a timely appeal is made by one or both parties. A recommendation that the Respondent be dismissed from the College shall automatically be reviewed by the Campus Director.

Either party may appeal the Committee's decision, or any recommended relief and/or disciplinary action contained therein. All appeals shall be made in writing and delivered to the Civil Rights Coordinator within ten (10) working days following the date of the Committee's decision. The Campus Director's decision to affirm, deny, or modify the Committee's recommendations and determinations shall be based upon the record of the proceedings made by the Review Committee. All such decisions by the Campus Director are final and shall be delivered in writing to the parties within ten (10) working days following receipt of the appeal.

In the event that a violation of the College's Policy Statement on Student Sexual Harassment is determined through this hearing process, all documentation arising out of the allegation of sexual harassment, including any and all resulting disciplinary action imposed to resolve the matter, shall be maintained in the student's educational file.

GUIDE TO REQUESTING ACADEMIC ACCOMMODATIONS AND/OR AUXILIARY AIDS

GETTING STARTED

Delaware Technical and Community College is committed to providing reasonable academic adjustments for students with disabilities which may include auxiliary aids and/or accommodations that do not alter a fundamental requirement of our academic programs. Since every disability manifests itself differently in each individual, every attempt will be made to tailor all academic adjustments to meet individual needs. Students with disabilities who wish to

request academic adjustments must see the campus ADA contact. The campus ADA contact will evaluate the request and engage in an interactive process to determine what, if any, academic adjustments are warranted. Students seeking academic adjustments must request the same at least 4 weeks prior to the start of each semester for which academic adjustments are sought. Academic adjustments requested by students who fail to follow these procedures may be denied or may not be available prior to the start of classes.

CAMPUS ADA CONTACTS

The following individuals are the ADA contacts for their respective campuses. They will assist you in fulfilling the requirements to obtain reasonable and necessary academic adjustments.

Dover
Charles Mundell
(302) 857-1349
cmundell@dtcc.edu

Georgetown
Carla Tingle
(302) 259-6045
ctingle3@dtcc.edu

Stanton
Heather M. Statler
(302) 454-3927
hstatler@dtcc.edu

Wilmington
Victoria Chang
(302) 434-5553
vchang1@dtcc.edu

In addition, inquiries or complaints pertaining to this Guide may be addressed to the College's Civil Rights Coordinator, who serves as the College's ADA/Section 504 Coordinator, at the following:

Barbara Mignon Weatherly, Esq.
Civil Rights Coordinator, Office of the President
P.O. Box 897
Dover, DE 19903
(302) 857-1903
civilrights@dtcc.edu

DOCUMENTATION

Students should provide the campus ADA contact with documentation of their disability. This information may include diagnosis of disability, functional limitations, psycho-education testing results, most recent IEP (if available), and any other information that may provide insight, clarification or support of the student's condition and how that may impact the student's ability to perform in an academic setting. Since many types of disability remain unchanged over the course of a student's lifetime, information may be accepted in cases where the campus ADA contact determines in his or her sole discretion that a meaningful interactive process can occur and reasonable adjustments can be approved. In some instances, discussion between the student and the campus ADA contact may be sufficient to determine the appropriate assistance. In other situations, a professional evaluation will be necessary to enable the campus ADA contact to understand how the disability impacts the student's ability to function in a college setting. If documentation is necessary, the student must sign a release authorizing the information to be given to the campus ADA contact. **PROVIDING THIS DOCUMENTATION IS THE OBLIGATION OF THE STUDENT, AT THE STUDENT'S SOLE EXPENSE**.

The student and the campus ADA contact (together with such other parties as may be designated by the Campus ADA Contact) will discuss which academic adjustments are appropriate for the student's individual situation and coursework.

CONFIDENTIALITY

The ADA campus contact will maintain appropriate confidentiality of records or communication, except when disclosure is authorized by the student or by law.

EXAMPLES OF ACADEMIC ADJUSTMENTS PROVIDED BY THE COLLEGE

In providing academic adjustments, we do not lower or effect substantial modifications to essential technology requirements nor do we make modifications that would fundamentally alter the nature of a program.

Examples of the types of academic adjustments which may be provided are as follows:

Accessible Furniture: Providing classroom furniture, which is most appropriate for the student in light of their disability.

Assistive Listening Device: An amplification system designed to help the student hear better by minimizing background sounds and amplifying desired sound.

Clear View/Lip-Reading: The process of viewing the speaker's lips to facilitate communication (requires unobstructed view of the speaker).

Course Reductions which do not fundamentally alter the nature of the program: Students may elect to attend on a part-time basis. Part-time study may impact the length of time to complete program requirements and/or financial aid.

Course Substitutions will be considered so long as the modification does not fundamentally alter the nature of a program.

Early Access to Course Syllabus: Providing the student with a course syllabus prior to the beginning of the term. A student who needs class material in alternate format or who requires additional time to complete reading or writing assignments will benefit from having early access to course requirements. Early access to the course syllabus allows the accommodation process to begin early and reduces chances of delays in services.

Large Print Handouts: Enlarging written material on standard photocopier or word processor to facilitate reading for a student with various processing or sensory impairments.

Note taker/Scribe: Individual assigned to assist a student by recording class lecture notes of instructor's spoken words. The scribe may also assist student to record in-class assignments.

Priority Seating: Allowing the student to choose the class seating arrangement which is most appropriate in light of the disability.

Sign Language Interpreter(s): A person who translates spoken English into American Sign Language (ASL) and vice versa for students with significant hearing loss or deafness. A student using an Interpreter should be allowed to choose classroom seating which is most appropriate for that student's particular need. The college will provide the interpreter; it is not reasonable to expect the College will pay for an interpreter you have used before or currently use on a daily basis.

Tape Recording/Transcribing Lectures: Recording spoken material presented in the classroom using a tape recorder.

Visual Media: Using graphics or other visual methods, such as PowerPoint slides or handouts, to supplement class lecture and spoken information.

The following is a list of testing adjustments which may be made, depending upon the course and the needs of the student:

Alternative Test Design: Changing test format or design to allow the student to demonstrate mastery of course material while minimizing the interference of their disability. For example, one might use a multiple-choice design instead of an essay design.

Alternative Test Location: The student is assigned to take an exam in a mutually agreeable location. Arranged and coordinated by the ADA campus contact.

Computer Usage: Use of a personal computer during testing allowing the student to use a spellchecker, word processing capabilities, or special assistive software required for their specific disability needs.

Distraction – Free Environment: An environment free from noise and other distractions (classroom activities, phones, loud talking, operating machinery) that might interfere with the testing process.

Electronic Speller/Dictionary: An electronic speller is a portable device, which assists the student in spelling correctly.

Extended Time: Additional time given to complete a test. Length of extension varies according to the student's needs and documented disability. The standard time extension is "time and a half."

Individual Test Proctor: Individual assigned to personally administer a test to the student.

Large Print Test: Enlarging tests to provide the student with visual access to the test.

Oral Test: Administering test orally to the student and allowing the student to provide oral responses.

Reader: Individual assigned to read test directions and/or test questions to the student with a disability.

Scribe: Individual assigned to record test responses of the student with a disability but who does not offer assistance with content of test responses.

Sign Language Interpreter(s): A person who translates directions and/or information given during test administration from English into American Sign Language (ASL). It may also include allowing the student to ask questions for further clarification using his/her ASL interpreter during test questions.

Test on Tape: Tape recording test questions so the students can listen to the questions. This might include allowing the student to tape record the answers.

Voice Calculator: A calculator that provides voice output of mathematical data and mathematical processes.

EXAMPLES OF REQUESTS WHICH ARE NOT REASONABLE

The following is a list of services that the college will not provide. This is not an exhaustive list, but rather provides examples of unreasonable requests. The ADA campus contact may be able to provide community referrals to these services, if appropriate.

1. Providing personal attendants (aides)
2. Feeding students

3. Administering and storing of medications
4. Assisting with personal hygiene (catheter bags, etc.)
5. Writing and proofreading papers
6. Tutoring (will be referred to campus tutorial support)
7. Psychological counseling
8. Storage of medical supplies and equipment (oxygen tanks, wheelchairs, etc.)
9. Diagnosis of disability condition
10. Providing care for service animals

COMMUNICATION WITH FACULTY

The ADA campus contact will send notification to faculty and campus offices of the academic adjustments that will be provided. Students are encouraged to discuss their academic adjustment (s) with their instructors; however, students are NOT obligated to self-disclose the nature of their disability to the instructors. Students are responsible for communicating the effectiveness of the academic adjustment(s) with the instructors and the campus ADA contacts.

GRIEVANCE PROCEDURE

If a student is not satisfied with the academic adjustment(s) that, after discussion with all parties, has been determined to be appropriate by the campus ADA contact, then s/he may use the following grievance procedure.

Students who are unsatisfied with the academic adjustments approved by the campus ADA contact or otherwise feel they have been the subject of discrimination on the basis of disability shall state their concerns in writing to the appropriate Dean of Student Affairs. The inquiry shall be made as soon as reasonably possible after the action occurs but in no case later than 10 working days after such occurrence. The time for filing a grievance can be waived for good cause at the discretion of the Dean of Student Affairs.

The Dean of Student Affairs, or designee, shall conduct a thorough investigation of the grievance, affording all interested persons and their representatives an opportunity to submit relevant information. The Dean of Student Affairs shall consult with the College's Civil Rights Coordinator, or designee, and shall issue a written response, with a description of the resolution, if any, to the grievant and other appropriate persons within 15 working days of receipt of the complaint.

The decision of the Dean of Student Affairs shall be final.

Nothing in this procedure prevents any individual who believes he or she may have been discriminated against from pursuing any and all legal remedies.

RETURNING STUDENTS

Accommodation(s) plans are NOT carried over from semester to semester. A new request for academic adjustments must be made for each semester that adjustments are desired. Once a request is made, students must allow the campus ADA contact up to four weeks to facilitate appropriate academic adjustments.

PROCEDURE FOR THE RESOLUTION OF DISCRIMINATION COMPLAINTS AGAINST A STUDENT

Introduction

It is the policy of the College that no student shall be subject to unlawful discrimination in the educational programs and activities over which the College has jurisdiction. The College does not tolerate discriminatory conduct and is firmly committed to resolving complaints of discrimination in a prompt and equitable manner.

As a result, the College has adopted the following procedures to provide an internal mechanism to resolve complaints of discrimination. These procedures shall be utilized whenever a student is accused of engaging in discriminatory conduct in violation of the College's Statement of Nondiscrimination Policy. However, complaints against another student or employee for violating the College's Policy Statement on Student Sexual Harassment or the College's Policy on Employee Sexual Harassment, respectively, shall be reviewed under those procedures. In addition, student complaints pertaining to academic accommodations shall be reviewed under the College's Guide to Requesting Academic Accommodations and/or Auxiliary Aids. Furthermore, complaints made against an employee who is accused of violating the College's Statement of Nondiscrimination Policy shall be reviewed under the Procedure for the Resolution of Discrimination Complaints Against an Employee as contained in Section XIII of the College's Personal Policy Manual.

No individual shall be subject to retaliation at any time for making a complaint of discrimination or for participating in these procedures. It is a violation of College policy for any member of the College community to retaliate against the Complainant, any individual who participates in any discrimination investigation or proceeding, or against the Respondent who has been accused of engaging in discrimination. While all discrimination allegations will be reviewed in accordance with these procedures, the College community is advised that a claim of discrimination is not proof of prohibited conduct. Anyone who believes that he/she has been

subject to retaliation arising from discrimination allegations is encouraged to report such behavior to a College official as set forth below. Accusations of retaliatory conduct are subject to disciplinary action, up to and including dismissal from the College.

Making a false or malicious accusation of discrimination and/or retaliation is also prohibited by the College. A student who is found to have made an allegation of discrimination against another student or employee that is intentionally false, or made in reckless indifference or disregard for the truth, shall be subject to disciplinary action, up to the College's Student Rights and Standards of Student Conduct Policy and the disciplinary action set forth therein, up to and including dismissal from the College.

Additionally, at any stage of these procedures, the Dean of Student Affairs at the campus where the alleged discrimination and/or retaliation is alleged to have occurred (hereinafter the "Dean") shall have the authority to take any and all reasonable steps necessary to protect all parties involved under these procedures from further discriminatory conduct and/or retaliation. The occurrence or non-occurrence of any protective measure initiated by the Dean is neither an indicia of guilt nor innocence under these procedures. Any such steps taken by the Dean to protect members of the College community from further discriminatory conduct and/or retaliation shall be final pending the resolution of the allegation as set forth under these procedures.

Furthermore, these procedures, and all aspects thereof, will be kept confidential to the maximum extent provided by state and federal law, including, but not limited to, the Family Educational Rights and Privacy Act ("FERPA"). The College will take all reasonable steps to investigate and respond to complaints in a confidential manner. Complainants, however, are advised that the College's ability to investigate and to respond to complaints may be limited in circumstances where the Complainant does not wish to disclose his or her identity. The College reserves the right to notify law enforcement authorities about allegations of discrimination upon reasonable belief that such incidents rise to the level of criminal activity. The use of these procedures does not preclude a Complainant from seeking recourse through the appropriate state or federal criminal law enforcement agencies at any time.

Reporting Procedures

The College encourages any student who believes that he/she has been subjected to discrimination to report the offensive conduct to a College official as soon as possible. For purposes of these procedures, a College official shall include any faculty member, academic counselor, administrator, or Public Safety Officer on the campus where the conduct is alleged to have occurred. Students may also contact the College's Civil Rights Coordinator to report incidents of alleged discrimination.

The College's Civil Rights Coordinator shall be notified of all claims of discrimination as soon as reasonably practical. The Civil Rights Coordinator shall promptly appoint a Civil Rights Review Officer ("Review Officer") from the campus where the conduct is alleged to have occurred to investigate the claim. The Review Officer shall advise the alleged offender that a complaint of discrimination has been filed against him/her and explain the College's prohibition against retaliation. The Review Officer shall document receipt of the complaint by letter or other written communication to the alleged offender and to the Complainant, a copy of which shall also be provided to the Dean and to the College's Civil Rights Coordinator. The Review Officer shall investigate the complaint to determine whether or not there are sufficient grounds to support a charge of discrimination as set forth in the College's Statement of Nondiscrimination Policy. The Review Officer shall encourage and/or assist the Complainant to reduce his/her claims to writing, which shall serve as the basis for the complaint of discrimination. Whenever possible, the investigation shall include interviews with both parties involved in the complaint and/or may include interviews with individuals who may have observed the alleged conduct or may have relevant knowledge of the incident. The Review Officer shall also have access to such written documents in the possession of the College, including student records, that he/she believes may contain relevant information or which may lead to the discovery of relevant information.

The Review Officer shall make a written determination regarding whether or not sufficient evidence exists which, if true, would constitute discriminatory conduct in violation of the College's Statement of Nondiscrimination Policy. All evidence shall be viewed by the Review Officer in the light most favorable to the Complainant when making the determination of whether or not a claim has been stated or substantiated. The determination shall be made within ten (10) working days following the Review Officer's appointment, include the grounds and findings upon which the determination was based, and be delivered to the parties, the Dean, and to the College's Civil Rights Coordinator. In extenuating circumstances, including but not limited to those incidents that require evidence gathering by law enforcement officials, the Review Officer may extend the ten (10) working day deadline to make the determination. The parties, as well as the Civil Rights Coordinator, shall be notified in writing by the Review Officer about the reasons for the delay and the time frame in which the determination shall be made.

The Complainant may appeal a determination that insufficient evidence exists to support a claim of discrimination to the Civil Rights Coordinator. An appeal must be submitted in writing within ten (10) working

days following the date of the Review Officer's determination. The decision of the Civil Rights Coordinator regarding the sufficiency of the allegations, or the evidence in support thereof, shall be final.

In the event the Civil Rights Coordinator determines that further proceedings are warranted, the Complainant shall be offered the opportunity to mediate the claim or to have the matter submitted to the Discrimination Review Committee for a hearing.

Note: Mediation is not required to resolve a complaint of discrimination. The Complainant may end mediation at any time in favor of a hearing before the Discrimination Review Committee.

Mediation

Mediation is an informal and confidential way for the parties to resolve the complaint with the help of the Review Officer. The Review Officer will not decide who is right or wrong or issue a decision. Instead, the Review Officer will help the parties work out their own voluntary solution to the complaint.

Mediation should begin as soon as reasonably practical following an election by the Complainant but in no event greater than 10 working days absent agreement by the Complainant or extenuating circumstances that make commencement of the process impractical within the 10 day limit. Except as limited by the foregoing, in the event efforts to mediate do not begin within 10 working days, then the matter shall proceed to a hearing before the Discrimination Review Committee. Examples of such mediated options include, but are not limited to:

A. One or more meetings between the Complainant and the Respondent, mediated by the Review Officer, to discuss and resolve the complaint of discrimination to the satisfaction of both parties.

B. In the event that the Complainant does not wish to confront the Respondent, one or more meetings in which the Review Officer meets separately with the Complainant and the Respondent to discuss options to resolve the matter. The Review Officer shall notify the parties in writing if a settlement is reached, and shall attach a proposed form of agreement for signature. The failure or refusal of a party to execute the agreement within a reasonable time shall result in the matter proceeding to a hearing before the Discrimination Review Committee.

C. An agreement between the parties and delivered in writing to the Review Officer containing: 1) a statement describing the allegation of discrimination and requesting that such alleged conduct stop, signed by the Complainant; and 2) and acknowledgement of the complaint without admission of guilt and affirmation that the Complainant will not be subjected to discriminatory conduct in the future, signed by the Respondent.

Mediation may be discontinued: at any time by the Complainant; by the Review Officer, when he/she feels that further efforts will be non-productive; or when a voluntary agreement has been reached. The Review Officer shall prepare a written report documenting the success or failure of mediation to the Civil Rights Coordinator, the Dean, and the parties. If the mediation results in a voluntary settlement, a copy of the agreement, signed by the parties, shall be included, together with a statement that the College considers the matter to be closed. In the event that mediation resolves the matter, all documentation arising out of the allegation of discrimination, including the mediation agreement shall be separated from the student's educational file. In the event mediation is unsuccessful, the matter shall proceed to a hearing before the Discrimination Review Committee.

Discrimination Review Committee Hearing

A Discrimination Review Committee shall hear and determine claims of discrimination against a student in situations where mediation is not available, unsuccessful, or declined by the Complainant. The Committee shall consist of the Civil Rights Coordinator, who shall serve as the Committee Chairperson, one Civil Rights Review Officer who was not involved in the investigation of the allegation, and the Dean. The College Civil Rights Coordinator shall provide written notice to the parties of the date, time and place for the hearing before the Discrimination Review Committee. Such notice shall also include the following:

1. A copy of the complaint or a summary of the allegations;
2. A copy of the Review Officer's report; and
3. A summary of the rules that will govern how the hearing will be conducted.

Absent extenuating circumstances, or an agreement by the parties, the hearing shall take place within ten (10) working days following receipt of notification from the Review Officer that mediation was unsuccessful, unavailable or declined by the Complainant. The role of the Committee shall be to hear and consider testimony and other relevant, reliable evidence and make findings of fact related thereto. In addition, the Committee shall be charged with determining by a preponderance of the evidence whether or not a violation of the College's Statement of Nondiscrimination Policy has occurred.

The Committee shall submit a written report to the parties setting forth its findings of fact and its determination as to whether a violation of the College's Statement of Nondiscrimination Policy has occurred within five (5) working days following the conclusion of the hearing. In the event a violation is found to have occurred, the report shall also include a

recommendation of appropriate relief and/or disciplinary action, up to and including dismissal from the College.

The Committee's decision may be appealed by either party to the Vice President and Campus Director at the campus where the conduct is alleged to have occurred (hereinafter the "Campus Director"). The Committee's decision shall be final unless a timely appeal is made by one or both parties. A recommendation that the Respondent be dismissed from the College shall automatically be reviewed by the Campus Director.

Either party may appeal the Committee's decision, or any recommended relief and/or disciplinary action contained therein. All appeals shall be made in writing and delivered to the Civil Rights Coordinator within ten (10) working days following the date of the Committee's decision. The Campus Director's decision to affirm, deny, or modify the Committee's recommendations and determinations shall be based upon the record of the proceedings made by the Discrimination Review Committee. All such decisions by the Campus Director are final and shall be delivered in writing to the parties within ten (10) working days following receipt of the appeal.

In the event that a violation of the College's Statement of Nondiscrimination Policy is determined through the hearing process, all documentation arising out of the allegation of discrimination, including any and all resulting disciplinary action imposed to resolve the matter, shall be maintained in the student's educational file.

A Message From the President

Mark T. Brainard
President

Welcome to Delaware Technical Community College! As a former graduate of Delaware Tech and now as its president, I know the difference Delaware Tech can make in the lives of students. I invite you to explore our website and learn about the many high-quality, educational programs that can prepare you to achieve your academic and career goals!

As you search our site, you'll find career-focused degrees, certificates, diplomas and courses that prepare you for immediate entry into the workforce or enhance your existing professional skills…connecting Delawareans with jobs is our top priority.

To ensure our graduates are job-ready on Day 1, Delaware Tech offers rigorous nationally-accredited programs taught by high-quality faculty members, many of whom have years of experience in their field. As a student, you'll learn in a "hands-on" environment using the same cutting-edge technology that you'll find in the workplace. The College has strong relationships with business and industry throughout the state and region; if Delaware Tech is offering a program, you can feel confident that local employers have a need for highly-skilled professionals in that field.

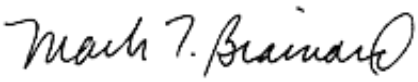
And we deliver high quality programs at a great value. Delaware Tech has one of the lowest tuition rates in the region; 70% of our graduates walk across the stage at commencement debt-free! That's why so many of our graduates begin their higher education careers at Delaware Tech and then seamlessly transfer to a four-year university through one of our 150+ connected degree programs.

No matter which path you choose at Delaware Tech, our caring and dedicated faculty and staff will be there to help you succeed. Our advisement and support services are designed to help you every step of the way, and we offer countless opportunities for our students to engage in campus clubs, athletics and work experiences that will enhance your professional skills and your resume.

In addition to our career-focused programs, the College offers many community-based programs including summer youth camps, adult education for those looking to complete a GED, continuing education classes for those with specific interests and workforce development for business and industry training needs. Community is not just part of our name, it's at the heart of our mission.

Call us, visit our campuses, talk with our staff and faculty. Contact us today, and let us know how we can help you reach your goals! We're waiting for you!

Sincerely,
Mark T. Brainard



Board of Trustees

The Board of Trustees of Delaware Technical Community College is the governing body of the institution. All members are appointed by the Governor of the State of Delaware with the consent of a majority of the State Senate. Six members are appointed for three-year terms - one from the City of Wilmington, one from New Castle County outside of the City of Wilmington, one from Kent County and one from Sussex County, with the remaining two from anywhere in the State. The seventh member, the Chairperson, is appointed by and serves at the pleasure of, the Governor. No more than four members may be of the same political party. The Board of Trustees sets policy for the College and is responsible for ensuring that the institutional mission is carried out. Among its numerous responsibilities, the Board approves the College plan, is responsible for the management and control of the institution, has the power to appoint administrative and teaching staff, sets the tuition rate, and approves fees. The Board also reviews fiscal matters and approves budgets.

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President Emeritus

Dr. Orlando J. George, Jr.
President Emeritus
B.A., University of Delaware
M.Ed., University of Delaware
Ed.D., University of Delaware

PRESIDENT'S OFFICE

The President's Office maintains an administrative staff to provide Collegewide leadership and perform specialized administrative and service roles for the Institution. These roles include strategic planning, institutional research, institutional effectiveness, marketing and public relations, human resources, legal affairs, college relations, computer services, academic affairs, curriculum development, student affairs, corporate and community programs, international education, purchasing, financial planning, and accounting. In addition, each campus has its own administration with leadership provided by the Vice President and Campus Director.

ACCREDITATION STATEMENT

The College and its campuses are accredited by the Middle States Commission on Higher Education, 3624 Market Street, Philadelphia, PA 19104. (267-284-5000). The Middle States Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation. In addition, several curricula have earned program-based accreditation by various professional organizations.

THE DELAWARE TECHNICAL COMMUNITY COLLEGE EDUCATIONAL FOUNDATION

The College exists to improve the quality of life for all Delawareans through education and training. In order to fulfill its mission, the College requires private support to maintain excellence in its offerings. Established in 1968, Delaware Technical Community College's Educational Foundation provides funding for student scholarships, staff development projects, and specialized equipment. Gifts may be given to the Foundation and designated for specific purposes. The Educational Foundation provides an opportunity for members of the community, College employees, alumni, students, and corporations to actively participate in the continued development of Delaware Technical Community College.

General Information

DELAWARE TECHNICAL COMMUNITY COLLEGE

Delaware Tech, the state's only community college, is guided by the values of providing access, opportunity, excellence, and hope for each student. Delaware Tech is an open admission institution that offers credit and non-credit education and training opportunities including more than 100 associate degree, diploma, and certificate programs. Programs are offered in fields such as energy management, engineering technology, business, computer information systems, nursing, allied health, education, criminal justice, and human services. Sixty-four of the associate degree programs at the Campuses have earned program accreditation by their state or national accrediting agency, demonstrating the College's full commitment to meeting industry standards of excellence. Delaware Tech also has 141 articulation agreements with four-year institutions, providing seamless pathways for graduates seeking a bachelor's degree. In the area of continuing education, offerings are provided in career training, customized training, personal enrichment, and youth programs.

In addition to traditional classroom instruction, Delaware Tech offers courses in multiple locations and formats that enable students to select the course type and delivery method that best fits their educational goals and objectives. Most on-campus courses and every distance learning course uses Blackboard, an industry-leading learning management system. In addition to Blackboard, faculty also have access to distance learning classrooms which feature state-of-the-art video conferencing and learning technologies, synchronous communication tools, as well as other course-specific interactive elements and applications.

Since 1967, when the College was founded, thousands of graduates have entered the workforce with the knowledge and skills they need to be successful. Leaders in business, industry, government, education, and health serve on College advisory committees, providing guidance to Delaware Tech as it develops and evaluates curricula to ensure its programs are up to date and relevant in the modern workplace.

Delaware Tech has earned its place as an educational leader in the State. The College is respected and trusted at the state and national levels because of its responsiveness to the needs of business and industry, commitment to quality and vision that supports economic development and educational needs of Delawareans.

HISTORY

The Delaware General Assembly created Delaware Technical Community College in 1966, when it approved House Bill 529, signed into law by then-Governor Charles L. Terry, Jr. A Board of Trustees was appointed to oversee development of the statewide institution. The Board Chairman was E. Hall Downes; members were William A. Carter, Edward W. Comings, William C. Kay, Clement J. Lemon, John H. Long, and Charles L. Simms.

The studies and reports of the original Board were used to create the Southern Campus which opened in September 1967, near Georgetown in Sussex County,

with 367 students enrolled. The name was changed to the Jack F. Owens Campus in May 1995. A temporary Northern Campus opened in New Castle County in 1968. The Northern location was replaced by two campuses-Stanton in the fall of 1973 and Wilmington in the spring of 1974. The Terry Campus opened in 1972 and moved to its current location north of Dover in 1974.

The President's Office, located adjacent to the Terry Campus, functions as a central office by providing collegewide leadership and a variety of services in support of the campuses. Students of all ages, backgrounds, and walks of life have benefited from the training and education that Delaware Tech has provided. It is estimated that one-fourth of Delaware's population has taken courses at Delaware Technical Community College during its short history.

MISSION STATEMENT

Delaware Technical Community College is a statewide multi-campus community college committed to providing open admission, post-secondary education at the associate degree level. The College offers comprehensive educational opportunities that support economic development and are relevant and responsive to the needs of the community including career, general, developmental, and transfer education; workforce training; professional development; and lifelong learning. The College believes in the practical value of higher education as a means of economic and personal advancement. The College respects its students as individuals and as members of diverse groups and is committed to fostering student success.

GOALS

The College will achieve its mission through the goals listed below:

- Academic programs will prepare students for successful employment upon completion and/or transfer to a senior institution.
- Developmental education will prepare students in mathematics, reading, and writing to be successful in entry-level College courses and workforce training.
- Workforce training and professional development programs will prepare and support a competitive workforce.
- Personal enrichment programs will provide lifelong learning opportunities for the community.
- Programs, activities, and services will create a welcoming and inclusive environment that promotes respect for diverse cultures, backgrounds, and points of view.
- The College will provide an environment that cultivates student learning and success.
- Public and private resources will be sought, obtained, and utilized to advance the College Mission and Goals.

INSTITUTIONAL EFFECTIVENESS

The College has established an institutional effectiveness structure that demonstrates effectiveness through the assessment and improvement of mission goal outcomes at the institutional level, student learning outcomes at the program level and educational support outcomes at the unit level. Outcomes assessment information relevant to potential students is available from the specific academic program and may include performance indicators such as national examination pass rates, internship or clinical performance ratings, portfolio or capstone project assessment, job placement rates, etc. Students interested in this information should talk with the academic program chairperson.

ADVISORY COMMITTEES

The College uses advisory committees to guide development and maintenance of educational programs. The committees are composed of public-spirited, knowledgeable citizens with expertise in business, industry, government, education, and health-related fields relevant to the education programs. Committee members meet periodically with department chairpersons, instructors, and deans. Advisory committees review curricula, arrange internships for students, and help the staff to assure that graduates will be prepared for entry into career fields.

Services for Students

The Division of Student Affairs is a partner in the student-centered learning community at Delaware Technical Community College. The Division provides programs, activities and services that promote student learning, engagement, development and achievement of goals. Students are respected as individuals and supported in their aspirations for a better life.

ADMISSIONS

Delaware Technical Community College has an open-door admissions policy limited only by the following criteria: a student must be a high school graduate or the equivalent, **or** at least eighteen years

of age and able to benefit from instruction.

Before enrollment in credit courses, award-seeking students are required to submit proof of high school or equivalent graduation **or** demonstrate through approved means the ability to benefit from the College's instructional programs.

High School Graduation And Ability To Benefit

Proof of high school graduation is required for award-seeking students who are applying for financial aid, the Student Success Equals Degree (SEED) Scholarship, and/or admission to academic programs with selective admission criteria (including competitive and wait list processes). The following proof of high school graduation is acceptable:

- High school transcript;
- Copy of high school graduation diploma or GED® credential;
- Letter from school district or state department of education attesting to high school graduation or attainment of GED® credential; or
- Secondary school completion credential for home school or proof of having completed a secondary school education in a home school setting that qualifies as an exemption from State compulsory attendance requirements.

As an alternative to providing proof of high school graduation or the equivalent (as described above), award -seeking students who are *not* applying for financial aid, the Student Success Equals Degree (SEED Scholarship, and/or admission to academic programs with selective admission criteria may demonstrate the ability to benefit from the College's instructional programs by earning at least the minimum score set by Delaware Tech for the College Board Accuplacer test or the Scholastic Aptitude Test, that is required to place the student in the College's developmental education courses. Continued enrollment is contingent on the student earning grades as required by the Academic Standing Policy and the Academic Standing Policy for Developmental Education.

The College's open-door college admissions policy does not mean that every academic program/curriculum is open-door. Students must meet course pre-requisites before enrollment and program/curriculum specific criteria for program admission.

Admission requirements for non-award seeking students (high school students, visiting college students, and adults who want to enroll in credit courses for personal enrichment and lifelong learning) are delineated in separate policies.

Operational Information
A high school diploma or GED® credential is one of the eligibility requirements for Federal financial aid. The College's Adult Basic Education program prepares students for GED® testing and/or to strengthen academic skills in preparation for college course placement.

Reasonable academic adjustments for testing are available for students with disabilities, which may include auxiliary aids and/or accommodations that do not alter a fundamental requirement of demonstrating college readiness.

COLLEGE ADMISSIONS PROCEDURE

For admission to the College and for full access to services, applicants should plan to complete the admissions process at least 30 days before the first day of class. Applicants should review their selected program as shown in the College Catalog to determine if there are additional admission requirements related to their specific program of study. The following procedures for admission to any campus should be followed.

1. Submit an Application to the College with a $10 non-refundable application fee payment. Applicants can apply on-line (http://www.dtcc.edu/admissions-financial-aid/apply/admissions), download a paper application (http://www.dtcc.edu/admissions-financial-aid/apply/admissions), or contact any campus for a paper application. Checks or money orders should be made out to Delaware Technical Community College.
2. Request that your high school and/or college transcript or GED® certificate be sent immediately to the Admissions Office on the campus to which you are applying. Submit Advanced Placement Test scores from your high school, as well as Tech Prep verification, CLEP or DANTES scores. (See information above about this requirement.)

3. Demonstrate College readiness in one of the following ways:
   a. Take the Accuplacer test for writing, reading, and math.
   b. Provide a copy of your SAT test scores.

Academic Program Admission Information

Delaware Tech is an open access college, but students must demonstrate academic readiness for college courses, satisfy course pre-requisites, and additionally be selected for admission into some academic programs that have limited seats and specific program

admission criteria and requirements. Selection for admission is not guaranteed into these programs, which currently include Nursing, Allied Health, and several others such as Airframe Maintenance.

The academic programs with specific admission criteria, requirements and limited seats offer admission to qualified students through either a **Competitive Process** or a **Wait List Process.**

In the **Competitive Process**, qualified students are ranked on the basis of their performance in meeting admission criteria and completing admission requirements. Performance measures may include but not be limited to grades, course pass attempts, scores on national and college specific examinations, etc. Ranking is conducted each time program admission is open so a student's chances of admission change in relationship to the performance of other student applicants. In this process, program admission is not guaranteed to any student.

In the **Wait List Process,** qualified students are placed on a wait list for program admission after they meet all admission criteria and requirements at the minimal prescribed level. In this process, all qualified students who meet the admission criteria and requirements are eventually offered a seat in the program.

Additional typical requirements for program admission and for employment include the following: satisfactory criminal background check, possession of a valid social security number and legal status to work, satisfactory physical examination, the ability to perform physical tasks, negative drug testing, and no record of abuse.

Academic programs with competitive or wait list admission procedures provide this information on their specific web page.

Programs with limited seats and specific program admission criteria and requirements may afford preference to residents of the State of Delaware. Delaware residency is determined in accordance with the requirements contained in the College's Residency policy.

The President of Delaware Technical Community College is authorized to establish enrollment quotas for qualified candidates by county for these programs which are offered in one or two counties and not offered in the other county or counties. At no time shall the quota for the campus offering the program be less than two-thirds of the entering enrollment.

ADVISORY STATEMENT

Delaware Technical Community College is an open admissions institution with degree, diploma, and certificate programs that require completion of courses, internships, practicums, clinical, and field work assignments and other experiential learning requirements. Approval of a student's placement in settings, such as health care facilities, schools and human services agencies, which provide these experiences is the prerogative of the organization providing the setting and not the College. Although requirements vary by organization and are constantly evolving, common criteria include:

- the lack of a criminal history including a review of the adult abuse and child protection registries;
- a satisfactory health exam including proof of immunizations and drug screenings;
- a valid Social Security number and proof of legal residency;
- and other applicable licensing/credentialing requirements.

Legal residency is required to work. Students should be aware that these requirements could limit or prevent their ability to complete an academic program or to find employment in the field. Students are responsible for all arrangements and costs associated with these requirements.

It is the student's responsibility to inquire about conditions and acceptance into courses and programs that may have special requirements. A student may seek the assistance of an Academic Counselor, Academic Advisor or academic program Department Chairperson in identifying conditions of acceptance and enrollment in all programs and courses at Delaware Technical Community College.

Conditions of employment are established by potential employers and not by Delaware Technical Community College and such conditions of employment may include or exceed any or all of the above requirements.

DEGREE-SEEKING STUDENT

Students who have completed the admission process and are enrolled in an associate degree, diploma or academic certificate program. This group includes students who intend to earn an award, but have an undeclared major. Award-seeking students must demonstrate college readiness or complete designated developmental education courses.

NON-AWARD SEEKING STUDENT

A *non-award seeking student* is one who has not matriculated and enrolled in a Delaware Tech degree,

diploma or credit certificate program, but is enrolling in credit courses. Non-Award Seeking includes visiting college and high school students, and students taking courses for their own enjoyment or professional enhancement. Visiting college students are assumed to be college ready. High school students must demonstrate college readiness through approved means. Non-award seeking students who are enrolling in courses for personal or professional enrichment do not have demonstrate college readiness if they enroll in Listener status.

VISITING STUDENTS

COLLEGE
Students pursuing a degree program at another college or university who want to take Delaware Tech courses to transfer back to their home institution. This includes University of Delaware Associate in Arts students.

Students are not required to demonstrate college readiness because their advisement derives from their home institution. It is the visiting student's responsibility to obtain authorization from the home institution regarding the transferability and applicability of the Delaware Tech course to their curriculum.

HIGH SCHOOL
High school rising junior or senior students may enroll in Delaware Tech courses with permission from their high school counselor/principal and their parents. Completion of the Early Enrollment form is required. In order to assure high school students are prepared to succeed at the college level, students must provide evidence of college readiness through the means approved by Delaware Tech prior to registration.

HIGH SCHOOL STUDENTS EARLY ADMISSIONS AND ENROLLMENT PROGRAMS

Rising junior or senior high school students may enroll at Delaware Technical Community College while concurrently enrolled in high school. Students must complete the admission procedures and a Request for Early Admission/Enrollment form which verifies the approval of the parent/guardian and the high school principal or counselor.

The approval of the campus Dean of Student Affairs is required prior to acceptance into the College and course registration. Students must be college-ready for enrollment in college level courses and meet course pre-requisites. Students may enroll in developmental courses with appropriate test scores for placement.

Students must register for the Delaware Tech course(s) and pay tuition and appropriate fees. Students must satisfy program specific requirements applicable to each selected college course.

Early Admissions
A rising senior high school student can be admitted and enroll in a degree or diploma program at Delaware Technical Community College on a full or part-time basis.

Early Enrollment
A rising junior high school student may enroll in up to two credit courses per semester at Delaware Technical Community College on a part-time basis. Specific programs, including over-subscribed programs, may be exempt from this policy.

INTERNATIONAL STUDENTS

Delaware Tech welcomes members of the international community. Prospective "F-1" applicants who intend to apply for a student visa must obtain the "Guidelines for Prospective F-1 Students" packet from the Admissions Office. This packet contains information regarding eligibility for admission. Non-native English speakers must also demonstrate proficiency in English and/or be placed in appropriate English as a Second Language or developmental education courses. For more information, please visit the college web site at https://www.dtcc.edu/admissions-financial-aid/apply/international-student

PLACEMENT IN COLLEGE LEVEL COURSES

Applicants seeking degrees, diplomas or credit certificates must provide evidence of readiness for college level courses. A variety of means are accepted including Accuplacer SAT, AP, TOEFL, IELTS, CLEP or DANTES scores; transfer of college credit for required courses, in reading, writing and mathematics; or possession of an associate or higher degree. Placement cut-off scores are available from the Campus Admissions Office.

The College Board's Accuplacer is a standardized test used for placement purposes only. Applicants are tested in reading, writing and mathematics. Results of the test are used to determine the level of courses at which students will begin. All students who are placed into a developmental education course are required to complete the course, SSC 100 First Year Semester.

Applicants who have earned college credit for English or mathematics courses are exempt from part of or the entire placement test. Exemption of placement testing will be based upon evaluation of an unofficial or official

college transcript as described below:

(a) Transfer credit approved for a developmental reading, writing or math course waives the relevant Accuplacer test.

(b) Completion of a college level English course with a grade of "C" or better waives the Accuplacer Sentence Skills and Reading tests.

(c) Completion of a college level mathematics course with a grade of "C" or better waives the Accuplacer Arithmetic test.

(d) Completion of a college level algebra course with a grade of "C" or better waives the Accuplacer Algebra test only if the course is currently listed on the Delaware Technical Community College transfer matrix or permission to waive Algebra Accuplacer test is approved by the mathematics department chair.*

*While completion of college level courses provides evidence of college readiness, it does not guarantee transfer of credit. In addition, course pre-requisites must be observed. In order to evaluate transfer credit, an official transcript must be submitted.

Students are eligible to retake each portion/subject of the Accuplacer test one time. The length of time between re-takes is the student's prerogative, but students should be strongly encouraged to prepare for the re-take attempt. The Dean of Student Affairs may approve additional re-take attempts in exceptional circumstances he/she believes warrants a re-take opportunity.

ACADEMIC ADVISEMENT

At Delaware Tech, academic advisement is an essential part of the student's learning experience and a critical component of student success. Academic advisement teaches the student to navigate the college experience, identify goals, understand program and course options, connect to campus resources and activities, and develop and implement strategies to successfully achieve the student's goals.

Faculty and staff throughout the College community collaborate to provide comprehensive academic advisement. Initial advisement is provided in the advisement center. In addition, the student is assigned a program advisor based on the selected program of study. Together, the advisors and student develop a Student Educational Plan focused on achieving the student's educational, professional, and life goals.

Advisement Center
The advisement center provides general advisement by appointment and walk-in hours.
At the advisement center, Academic Counselors work with the student to begin the Student Educational Plan.

The Academic Counselors guide the student in navigating the steps to enrollment, exploring career options, selecting a program of study, learning to access MyDTCC, selecting first semester courses, and identifying opportunities for engagement and strategies for success. The student is encouraged to visit an advisement center throughout the educational experience to clarify goals, answer questions, seek referrals, and discuss additional opportunities for success.

Program Advisor
The program advisor provides ongoing advisement specific to the student's area of study and collaborates with the student to continue to develop the Student Educational Plan. The program advisor mentors the student in evaluating career options, understanding program requirements, making effective decisions about course enrollment, developing professional behaviors, and reviewing progress towards goal achievement. Regular, ongoing meetings with the advisor are essential in helping the student achieve goals in a timely manner.

Student Educational Plan
The Student Educational Plan (SEP) is an electronic tool that enables consistent communication between the College and the student to identify goals and develop comprehensive strategies to achieve them. The SEP is created at the initial meeting with an advisor. Each student is required to meet with a program advisor to continue developing the SEP before enrolling for a second semester. The student is expected to work with a program advisor on an ongoing basis to update the SEP. The SEP is accessible through Self-Service Banner.

Registration

After selecting courses for the upcoming semester(s), the student must complete the registration process to enroll in the courses. Students may register online through Self-Service Banner or at the Registrar's Office. Designated registration periods for each semester are posted on the Academic Calendar. ***Early registration is recommended for greater course availability.***

REGISTRATION

Registration is the period of time set aside each semester during which students select and enroll in courses for the following semester(s). Students are encouraged to meet with their assigned academic advisor as early as possible after admission, but must meet with their academic advisor to develop their individual Student Educational Plan prior to second semester enrollment. Students may obtain walk-in assistance from campus advisement centers. Students must have the signature of both the advisor and

department chairperson to register for more than 21 credits per semester. Students are encouraged to register as early as possible to ensure course availability. Students may register in-person or via the College's website at www.dtcc.edu/reg.

FACILITIES AND SERVICES FOR STUDENTS WITH DISABILITIES

Delaware Technical Community College is committed to complying with the Americans with Disabilities Act of 1992.The College provides students with disabilities, resources and support to assist in their academic success by engaging in an interactive process with each student. Each campus has a professional staff member assigned to provide necessary resources and services to students who have unique needs due to their disabilities. Faculty and staff work cooperatively to assist students with special needs in their educational endeavors and adjustment to the campus community. Each of the campuses is architecturally accessible to disabled students. Barrier-free restroom, telephone and eating facilities are provided at all campuses. Automatic doors and elevators are installed in appropriate areas. Reasonable academic accommodations will be provided for students needing specific assistance. Students are urged to request resources and services prior to the beginning of the semester. The College requires appropriate documentation of the need for assistance. Prospective students are encouraged to visit the campus to become familiar with the campus and meet the support staff prior to making their decision to apply and enroll.

Information for requesting reasonable accommodations and building a plan of academic support can be found on the College web page at http://www.dtcc.edu/student-resources/learning-support/disability-services

CAREER PLANNING AND PLACEMENT

Career planning and placement information is available to help students plan for the future. The Career Center is a useful resource for students who are trying to decide upon a major, find a job or internship, write a resume
or improve interviewing skills.

Students may use a computer based career planning program that includes information concerning job duties and responsibilities, opportunities for growth and advancement, and salary structures in career fields of their interest. In addition, students may review catalogs of area institutions, view videos on interviewing techniques, receive information regarding resume and cover letter development and protocol, and participate in mock job interviews with the career counselors. For more information, students may visit the campus Career Center or the web site at http://www.dtcc.edu/student-resources/career-services

HOUSING & PARKING

The College does not maintain student housing of any type; therefore, the College cannot accept responsibility for students housed locally. Parking facilities are available at each campus on a first-come first-serve basis. Parking for students with disabilities is also provided.

CAMPUS PUBLIC SAFETY

Delaware Technical and Community College encourages each member of the campus community to report any crimes or criminal activity to the Public Safety Department. The Campus Public Safety officers are empowered with the authority and responsibility to provide immediate assistance with safety and security issues. The Public Safety Department has a close working relationship with local law enforcement agencies. The local and state police will be called for assistance when needed.

NOTICE OF AVAILABILITY OF ANNUAL SECURITY REPORT

Delaware Technical Community College maintains an annual security report as required by the Clery Act. The College's annual Clery Act report contains information on campus security and personal safety, including crime prevention, the law enforcement authority of College public safety officers, crime reporting policies, certain specific College policies, and other important matters about security on campus. The report also contains statistics for the three previous calendar years on crimes that were reported to have occurred on campus, in certain off-campus buildings or property owned or controlled by the College, and on public property within or immediately adjacent to and accessible from the campus.

The College's annual Clery Act report is available on the Delaware Tech website at https://www.dtcc.edu/about/public-safety/campus-crime-statistics. A printed report may also be obtained free of charge from the Office of Public Safety at each campus upon your request.

CONDUCT

Members of the College community have an obligation to participate in the life of the College in a responsible

manner. Students are citizens as well as members of the College community. As citizens, they have the rights that other citizens have such as freedom of speech, peaceful assembly and petition. As members of the College community, students remain citizens with responsibilities and duties commensurate with their rights and privileges. Further information regarding the Board of Trustees' policy on student conduct and student rights may be found in the Student Handbook. The Student Handbook is available online at www.dtcc.edu/handbook/

DRUG FREE SCHOOLS & CAMPUSES

The College believes that the illicit use of drugs and the abuse of alcohol by students have no place in the college environment. The unlawful possession, use or distribution of drugs and alcohol by students on any of the campuses or as any part of the institution's activities is strictly prohibited. Students violating the College policy will have sanctions imposed upon them as outlined in the Drug-Free School and Workplace Policy and Student Responsibilities and Student Rights.

TOBACCO-FREE POLICY

In order to ensure a safe, healthy environment, all Delaware Tech facilities are tobacco free for employees, students, and visitors effective January 1, 2011. The use of all tobacco products is prohibited within the boundaries of all College locations including all buildings, facilities, indoor and outdoor spaces and grounds owned, rented, operated, and/or licensed by the College. This policy applies to parking lots, walkways, sidewalks, sports venues, State vehicles and private vehicles parked or operated on College property. For the purposes of this policy, tobacco is defined as any type of tobacco product including, but not limited to: cigarettes, cigars, cigarillos, electronic cigarettes, pipes, bidis, hookahs, smokeless or spit tobacco or snuff.

The enforcement of this policy is intended to be educational, but repeat violators will be subject to disciplinary action as outlined in the Personnel Policy Manual, Section XII, Conduct and Corrective or Disciplinary Action.
(Board of Trustees, 9/14/10)

HEALTH SERVICES

Health services are limited to basic first aid and early critical care such as CPR and use of an AED. Emergency Medical Services (911) will be called for assistance when the injury or illness is of a serious nature. If the injured/ill student has provided a designated emergency contact, the College will attempt to contact that person upon the request of the student or if the student is unable to make a request.

STUDENT ACTIVITIES

Delaware Technical Community College provides a balanced student activities program which contributes significantly to the total educational experiences of its students. The Student Activities program is designed to foster the intellectual, social, emotional and physical development of students through participation in educational, cultural, recreational and athletic activities. These activities are planned by the Student Activities Coordinator and/or student organizations with funds provided by the Student Services fees and individual club fundraisers. Student activities provide opportunities for development of leadership skills, social interaction, relaxation, and improved physical fitness.

The general administrative responsibility for the Student Activities program rests with the Dean of Student Affairs at each campus. Details regarding specific activities may be found in the campus Student Handbook. The Student Handbook is available online at www.dtcc.edu/handbook/

ATHLETIC PROGRAM

Delaware Technical Community College is a member of the National Junior College Athletic Association (NJCAA). Eligibility rules, codes of conduct, substance abuse policies as well as gender equity policies are mandated or suggested by the NJCAA.

Eligibility is reviewed both on the national and regional level. Problems with eligibility or ethical behavior are brought before the Regional Standards and Ethics Committee.

All high school graduates are eligible for intercollegiate competition. Once a student begins taking college courses, his/her eligibility is determined by the number of college credit hours attempted and the grades earned in those courses. Transfer students from other colleges must produce a college transcript to determine eligibility.

Any additional information concerning athletic matters (forms, scholarships, eligibility, etc.) should be referred to the Campus Athletic Director.

JOB PLACEMENT FOR GRADUATES

Delaware Technical Community College measures its

success in large part by the success of its graduates' successful entry into career field employment. Graduate job placement is a "critical effectiveness indicator" that is annually assessed by the College. Academic programs are developed and maintained in consultation with advisory committees that include employers. Academic counselors and faculty meet with business and industry representatives to stay abreast of job opportunities and refer students to potential employers. They also prepare students for job seeking by assisting with skills such as interview techniques and resume preparation. Annual placement reports document graduates' employment.

TRANSCRIPTS

A transcript is an official historical academic record of all courses for which a student has registered. A copy of this record may be obtained from the Registrar's Office.

Requests for Delaware Technical Community College Official Transcripts should be made on a Transcript Request Form or by personal letter to the Registrar. *Telephone requests will not be honored.* Normal time for processing transcript requests is two working days or less. Every effort will be made to accommodate verifiable emergency requests that day except during peak registration days, end of term grade processing and graduation. The Registrar's Office cannot issue transcripts from other colleges or high schools.

TRANSFER OUT AND ARTICULATED PROGRAMS

The College has articulation agreements with universities and colleges in specific programs. These agreements enable a student to transfer to the senior institution as a junior, provided the required courses have been completed and the appropriate Cumulative Grade Point Average (CUM GPA) has been achieved as required by the receiving institution. The student must apply to the senior institution and complete all required admissions processes. Students need to see their advisor for information on articulation agreements called "Connected Degree Programs." Connected Degree Sheets which summarize these program articulation opportunities are available on campus and on the college website at www.dtcc.edu/connecteddegree/

The Student Affairs Division will assist students in making transfer inquiries, obtaining information, and completing applications to other colleges and universities.

A transfer matrix outlining pre-approved specific course by course transfers with Delaware and a variety of out-of-state institutions is available on the College's website.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT OF 1974, AS AMENDED

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights include:

1. The right to inspect and review the student's education records within 45 days of the day the College receives a request for access.
   A student should submit to the registrar, dean, head of the academic department, or other appropriate official, a written request that identifies the record(s) the student wishes to inspect. The College official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the College official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

2. The right to request the amendment of the student's education records that the student believes are inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA.

   A student who wishes to ask the College to amend a record should write the College official responsible for the record, clearly identify the part of the record the student wants changed, and specify why it should be changed.

   If the College decides not to amend the record as requested, the College will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to provide written consent before the College discloses personally identifiable information from the student's education records, except to the extent that FERPA authorizes disclosure without consent. Some, but not all, of the exceptions are explained in this notice.

   The College discloses education records without a student's prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests. A school official is a person employed by the College in

an administrative, supervisory, academic or research, or support staff position (including campus public safety personnel and health staff, if any); a person or company with whom the College has contracted as its agent to provide a service instead of using College employees or officials (such as National Student Clearinghouse, an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. Upon request, the College also discloses education records without consent to officials of another school in which a student seeks or intends to enroll.
A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibilities for the College.

FERPA also allows the College to disclose appropriately designated "directory information" without written consent, unless the student has advised the College to the contrary in accordance with the procedures set forth in this notice. The primary purpose of directory information is to allow the College to include this type of information from your education records in certain school publications. Examples include:

A playbill, showing a student's role in a drama production;
The annual yearbook;
Honor roll or other recognition lists;
Graduation programs; and
Sports activity sheets showing weight and height of team members.

Directory information, which is information that is generally not considered harmful or an invasion of privacy if released, can also be disclosed to outside organizations without a student's prior written consent. If a student does not want the College to disclose directory information from the student's education records without prior written consent, the student must notify the Registrar of the campus in writing within 30 days of the issuance of this notice.

Delaware Technical Community College defines directory information as follows:

- Name
- Address
- College E-mail Address
- Field of Study
- Full- or Part-time Enrollment Status
- Dates of Attendance
- Degrees and Awards
- Honors (President's List, Dean's List, Academic Recognition, and Honor Societies)
- Participation in Officially Recognized Activities and
- Sports
- Date of Birth
- Most Recent Previous High School Attended
- Weight and Height of Athletes
- Photograph*

*Use of Student Photographs: Photographers employed or contracted by the College regularly take photographs of students to illustrate or describe various aspects of the College and campus life. These photographs will be taken at public venues such as athletic events, concerts and graduation, and/or in other organized campus photo shoots where the subjects will have given verbal consent to be photographed. Individuals who are photographed while attending a public event or who verbally agree to participate in a photo shoot will be understood to have authorized Delaware Technical Community College to use their likeness in print and electronic materials to promote the College. The College will retain the usage rights to the photographs in perpetuity.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the College to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

   Family Policy Compliance Office
   U.S. Department of Education
   400 Maryland Avenue, SW
   Washington, DC 20202-5901

TUTORING

Tutoring is a service designed to help students master a subject, prepare for tests, and sharpen their skills in order to become independent learners. Tutoring services are free for all students and are provided to the extent of campus resources.

Some departments recommend students to work as Peer Tutors to provide extra help for students in various courses. Advanced students work with individuals or small groups to increase understanding of course material.

Comprehensive tutoring services are available during the fall and spring semesters. Students generally receive up to one hour of tutoring per course each

week, as necessary. Limited tutorial services may be provided during the summer sessions.

PRIORITY OF SERVICE POLICY FOR VETERANS AND ELIGIBLE SPOUSES

The U.S. Department of Labor (USDOL) provides certain funds to Delaware Technical Community College to provide employment and training services to eligible residents and workers. As a condition to receiving those funds, priority of service (POS) shall be given to veterans and eligible spouses in training and placement services. In accordance with the implementation of the Veterans' Priority Provisions of the "Jobs for Veterans Act" (PL107-288), qualified veterans and eligible spouses will receive priority referral to services over non-veterans as determined by each program's mandatory eligibility criteria, if any. Veterans and eligible spouses must meet all eligibility and program requirements for participation in order to receive priority for a program.

The veteran or eligible spouse shall be identified at the point of entry, whether in person or virtual, so that the priority of service may be implemented over the full range of services available including,but not limited to registration, training and placement. Veterans shall be asked to self-identify upon application.

Priority of service means that a covered person receives access to the service or resource earlier in time than a non-covered person or if the service or resource is limited, the covered person receives access instead of or before a non-veteran.

Eligibility

For purposes of this policy only, the following definitions will apply.

Veteran: a person who served in the active military, naval, or air service, and who was discharged or released therefrom under conditions other than dishonorable, as specified in 38 U.S.C. 101(2). Active service includes full-time duty in the National Guard or a Reserve component, other than full-time duty for training purposes.

Eligible Spouse: The spouse of any of the following:

(1) Any veteran who died of a service-connected disability;

(2) Any member of the Armed Forces serving on active duty who, at the time of application for the priority, is listed in one or more of the following categories and has been so listed for a total of more than 90 days:

(i) Missing in action;

(ii) Captured in line of duty by a hostile force; or

(iii) Forcibly detained or interned in line of duty by a foreign government or power;

(3) Any veteran who has a total disability resulting from a service-connected disability, as evaluated by the Department of Veterans Affairs;

(4) Any veteran who died while a disability, as indicated in (3) above, was in existence.

The status of a veteran or an eligible spouse can be verified by referring a variety of official documents, including, but not limited to:

- A DD 214 (issued following separation from active duty);
- An official notice issued by the Department of Veterans Affairs that establishes entitlement to a disability rating or award of compensation to a qualified dependent;
- An official notice issued by the Department of Defense that documents the eligibility of an individual, based on the missing or detained status of that individual’s active duty spouse; or
- An official notice issued by a State veterans’ service agency that documents veteran status or spousal rights,provided that the State veterans’ service agency requires Federal documentation of that information.

Implementation

Priority of service shall be provided in course registration and in acceptance into selective admission programs with waiting list and competitive ranking admission procedures.

Admission –Veterans and eligible spouses will be asked to self-identify on the application to the College. The academic counselor who provides ancillary services to veterans will contact the veteran/spouse to discuss priority of service and request documents to verify eligibility, if applicable.

Course Registration –Online and in-person registration shall open one day earlier for eligible veterans and spouses than for other students.

Admission into Programs with Waiting Lists – Eligible veterans and spouses who have met all the program admission requirements shall be placed at the top of the waiting list and admitted in the next program cohort offered seats.

Admission into Programs with Competitive Ranking – Each program shall establish and publish the program

admission minimum score/requirements for eligible veterans and spouses to be admitted to the program, independent of the regular competitive ranking admission process. The minimum score/requirements shall be determined based on the program's student success data. As expectations for the workforce and curriculum requirements change, changes may be made to the minimum score/requirements established for priority of service. Eligible veterans and spouses who meet that minimum shall be admitted.

Financial Information

TUITION

(for the 2014-2015 academic year)

In-State Students (Day and Evening) $132 per credit hour per semester for all catalog courses. Maximum tuition for full-time students--$1,584 per semester, 12 credits or more.

Out-of-State Students (Day and Evening) $330 per credit hour per semester for all catalog courses. Maximum tuition for full-time students--$3,960 per semester, 12 credits or more.

Students registered for 12 credit hours per semester or the equivalent are considered "full-time" for purposes of tuition payments.

This policy applies equally to students who take courses on more than one campus.

Tuition for non-credit courses will be charged on a per course basis as stated in the Corporate and Community Programs Division brochure or other literature describing the course.

A student may pay tuition at any of the campuses.

SENIOR CITIZEN TUITION POLICY

Residents of the State of Delaware who are 60 years old or older may enroll at Delaware Tech tuition free, in any catalog course, technical or related studies, day or evening. Delaware Tech/University of Delaware AA Program credit courses are also included. Special interest courses are excluded. Persons eligible for this privilege are not required to pay application, course registration, or other related fees. They shall pay the cost of all books, supplies, laboratory/ material fees, and shop fees. The Application and Student Services fee is waived. This privilege may be limited or denied in courses for which selective admissions criteria have been established. This privilege is granted on a space-available basis.

RESIDENCY POLICY

1. Residency status is determined when a student first registers at the College and when reentering after an absence. Students whose in-state status (see items 3. and 4. below) changes will be charged out-of-state tuition when they re-register at the College.
2. A student may have his/her residency status changed for a future semester's registration period if the student provides documentation that he/she has met the requirements in items 3. and 4. below.
3. Students 18 years old or older are considered to be Delaware residents if one of the following conditions are met immediately prior to registration:
    - Delaware has been their domicile and continuous residence for at least six (6) months.
    - They have been employed (full-time) at least 30 hours per week in Delaware for at least six (6) consecutive months, or
    - They were dependents of their parents or guardians, who met the Delaware residency requirements above. The student must have been a dependent, as defined by the Internal Revenue Service, in the tax year immediately preceding the current College fiscal year. A copy of IRS Form 1040 or Form 1040A, or a state income tax return showing the student is a dependent, is the only acceptable documentation.
4. Students who are minors (under 18 years old) are considered to be Delaware residents if their parent or guardian meet one of the following conditions immediately prior to registration:
    - Delaware has been their domicile and continuous residence for at least six (6) months, or
    - They have been employed full-time in Delaware for at least six (6) consecutive month
5. Conditions for foreign students:
    - Students who are permanent or temporary resident aliens are considered to be Delaware residents if they meet the residency requirements in items 3. and 4. above. The six-month period of domicile and continuous residence commences when the student has received an INS Form I-797 indicating receipt of an application for such immigration status.
    - A student who has sought the protection of the United States by applying for refugee, asylee, parolee or temporary

protected status may be entitled to in-state status if such student otherwise qualifies for in-state tuition based on six months domicile and continuous residence in Delaware from the date of the applicable INS Form I-797 or at least six (6) consecutive month's full-time employment in Delaware immediately prior to registration.
- A student who is present in the United States and has an immigration status that does not require such student to maintain a foreign domicile as a condition of immigration status may acquire in-state status if such student otherwise meets the six (6) month domicile and continuous residence and/ or six (6) consecutive month full-time employment in Delaware requirement immediately prior to registration.
- A student with an F, J or M visa or who otherwise must not abandon or has no intention of abandoning his or her residence in a foreign country will not be afforded in-state status.

6. Documentation establishing residency or Delaware employment shall be required for all new or reactivated students.

   A. Documentation of residency shall require one of the following:

   - Delaware driver's license or Delaware identification card dated at least six months prior registration.
   - A copy of a Delaware Resident Income Tax Form in the name of the student or the student's parent, legal guardian or spouse with whom the student resides listing a date of residency at least six (6) months prior to registration.
   - Copies of utility bills in the name of the student or the student's parent, legal guardian or spouse with whom the student resides for six (6) consecutive months prior to registration.
   - A copy of a fully executed lease, HUD-1 settlement statement or deed in the name of the student or the student's parent, legal guardian or spouse with whom the student resides dated at least six (6) months prior to registration.
   - Copies of bank statements in the name of the student or the student's parent, legal guardian or spouse with whom the student resides for six (6) consecutive months prior to registration and bearing a Delaware address (other than a post office box.)
   - Copies of official documents confirming the receipt of any type of social service assistance from the State of Delaware or any political subdivision thereof (i.e. WIC benefits, food stamps, Medicaid, etc.) in the name of the student or the student's parent, legal guardian or spouse with whom the student resides for six (6) consecutive months prior to registration.

   B. Documentation of Delaware employment shall require all of the following:

   - Pay stubs or other official written confirmation from an employer demonstrating that the student or the student's parent, legal guardian or spouse with whom student resides has worked an average of at least 30 hours per week during the six (6) consecutive months prior to registration. A letter from the employer on the employer's letterhead shall be sufficient.
   - IRS Form W-2 showing payment of Delaware income taxes or a copy of any state income tax return for the immediately preceding tax year showing the payment of income taxes to the State of Delaware.

7. Residency status shall be determined by the Registrar's Office at the student's home campus. Chief Legal Counsel may approve the payment of in-state tuition based upon documentation that is not listed in paragraph 6. when he or she determines that such documentation is authentic and represents proof of Delaware residency or employment.
8. This policy is primarily for tuition payment purposes and is not applicable for determination of student financial aid eligibility.
9. Implementation details for this policy may be specified in the College's Manual of Procedural Guidelines.
10. Active duty military personnel and their dependents stationed in the State of Delaware are exempt from the six (6) month residency requirement and are considered in-state residents for tuition purposes.

    In addition, military, civilian and contractor personnel and their dependents that are reassigned to Aberdeen Proving Ground, Maryland from Ft. Monmouth, New Jersey on or before September 15, 2011, and chose to reside in Delaware shall be exempt from the six (6) month residency requirement and shall be considered in-state residents for purposes of tuition.
11. Contracts written with businesses or other groups sending their employees or members to the College may include a provision for the contracting party to be charged in-state tuition.

INSTALLMENT PAYMENT PLAN

Fall and Spring Semesters:
Students may use the College's Installment Payment Plan. The amount of the first payment is equal to one-third of the total tuition and course fees. The second installment payment is equal to one-half of the remaining account balance, and it is due four (4) weeks from the beginning of the semester. The third and final installment payment is due eight (8) weeks from the beginning of the semester, and it is equal to the remaining account balance.

Summer Semester:

Students may use the College's Summer Installment Payment Plan. The first installment payment is due at the time of registration. The amount of this payment is equal to one-third of the total tuition and course fees. The second installment payment is equal to one-half of the remaining account balance, and it is due three (3) weeks from the beginning of the semester. The third and final installment payment is due six (6) weeks from the beginning of the semester, and it is equal to the remaining account balance.

Important: Final payment must be made prior to the first day of registration for the following semester. A data hold will be placed on any student account that has a past due balance, and delinquent accounts are referred to a third party collections agency.

TUITION/FEE ADJUSTMENT POLICY COURSE OR SEMESTER WITHDRAWAL

To receive an adjustment for a course drop, the student must first officially drop the course. See Course Drop procedure or Registrar for details on officially dropping a course. To receive an adjustment for a semester withdrawal, the student must first officially withdraw from all courses. Students will not be charged any tuition or refundable fees (lab, technology support and telecourse) for courses dropped during the first week of the session. Students will be responsible for 50% of the assessed tuition and refundable fees for courses dropped during the second week of the session. After the second week, any courses dropped are not refundable. The following fees are non-refundable: application, registration, late registration, student services, credit by examination, and evaluation of work experience. The official drop/add/withdrawal period for each session is listed on the academic calendar.

EARNED TITLE IV FINANCIAL AID

Students who receive federal financial aid are eligible for payment according to their enrollment status and attendance. Students who attend more than 60 percent of a semester (approximately 9.6 weeks of a 16 week semester) are eligible to receive 100 percent of their payment. Students who attend 60 percent or less of a semester are eligible to receive a percentage of their payment, depending on the date of withdrawal from all classes. This percentage payment is done according to the Return of Title IV Funds Regulations. (34 CFR 668.22)

1. If the amount of earned federal financial aid is not adequte to pay institutional charges, the student is liable for any outstanding debt the student may owe the college. In addition, the student may be responsible for repaying a portion of his/her federal financial aid to the federal government.
2. Earnings from the Federal Work Study Program are not used in this calculation. The student is paid what he/she earns.
3. Students receiving loans must maintain half-time enrollment (at least 6 credits) in order to receive payment of the loan.
4. Basic-level courses (courses beginning with 00) do not count toward enrollment status for Title IV Funds.

   This policy applies to federal financial aid money only and will be the policy applied to students who withdraw from all classes.

   The date of withdrawal from all classes that will be used in the calculation is the date that the Registrar's Office processes the official College Withdrawal Form used by students who wish to withdraw from all their classes during the semester. Students must contact the Registrar's Office to obtain this form. The withdrawal date for students who drop all their classes without using the official College Withdrawal Form will be the last documented dates of attendance or the mid-point (50% point) of the semester without documentation. Withdrawing from the College may affect a student's eligibility for future financial aid funding.
   Federal law requires that students who receive federal financial aid must attend the classes for which they register in order to receive financial aid payment. Students who never attend a class will not receive any federal financial aid relating to that class, even if an official drop/withdrawal procedure is completed.
   The complete policy and additional information about financial aid are available on the Delaware Tech Web page, www.dtcc.edu/financialaid, that provides ongoing updates to all financial aid opportunities and the College's refund policies.

BOOKS & SUPPLIES

Books and supplies vary in cost according to course requirements. Instructors will inform students about texts, supplies and materials required in each course. This information is also available on the College's website.

MALPRACTICE INSURANCE

Students enrolled in allied health and nursing programs are required to purchase malpractice insurance through Delaware Technical Community College.

STUDENT SERVICE FEE

For students taking credit courses, a nonrefundable fee of $20 per semester for full-time students and $10 per semester for part-time students will be charged by each campus. Senior citizens are exempt from paying this fee. The Delaware Tech/University of Delaware Associates in Arts Degree Program student service fee is the same.

APPLICATION FEE

For new students taking credit courses - $10. This fee is non-refundable.

LAB FEES

Fees vary -- $10 per lab hour up to a maximum of 6 hours or $60 per course. There are program specified exceptions wherein the lab fees may be less or more, depending on program needs. Industrial education course lab fees are determined by the specialized equipment utilized in the course.

REGISTRATION FEE

All students who register for fall, spring, and summer sessions will be assessed a $15.00 Registration Fee per session for credit courses only. Students can make registration changes without an additional fee being charged. The Registration Fee is non-refundable.

TECHNOLOGY SUPPORT FEE

$7.75 per credit hour per semester to support cost of technology, instructional/course materials, and Internet e-mail/access for all credits taken.

LATE REGISTRATION FEE

Students registering on or after the first day of the session,will be charged a late registration fee of $25. The fee may be waived by the campus Dean of Student Affairs for the following reasons: (1) a disabling accident, certified by a physician; (2) a serious illness, certified by a physician; or, (3) campus or College functions that are beyond the control of the student, such as campus closings or problems with administrative systems.

The late registration fee is to apply only to credit courses and other courses listed in the College catalog. The fee will not apply to students who register during the open registration period and find a need to add courses afterward.

EVALUATION OF PRIOR LEARNING/WORK EXPERIENCE FEE

For students seeking College credit through the evaluation of prior learning or work experience, a fee equivalent to tuition for a one-credit course will be charged for each course in which a student requests credit, effective with the fall semester 1993.

OTHER FEES AND CHARGES

- Credit by Examination Fee
- Graduation Fee - $25
- Additional fees or changes to existing fees are subject to action by the Board of Trustees.

All fees listed above are non-refundable. All tuition and fees are accepted for payment of student accounts, pending final audit of those accounts by the Business Office.

Students will be responsible for reimbursing the College for payments made to third parties on their behalf for charges such as online access for distance education courses, telecourse rental fees, student malpractice insurance, etc. These "pass through" charges are non-refundable.

FINANCIAL AID STUDENT FINANCIAL ASSISTANCE PROGRAMS

The College offers financial assistance to students through federal, state, institutional and scholarship programs. Financial aid information is available on the Delaware Tech Web site at https://www.dtcc.edu/admissions-financial-aid/financial-aid-scholarships. Students are encouraged to use these resources.

The Free Application for Federal Student Aid (FAFSA) and scholarship applications may be obtained from the Financial Aid Office at each campus or on the Web at www.fafsa.ed.gov. Follow the instructions included with the application(s) to apply for any type of financial assistance. All students are encouraged to apply for financial aid as early as possible - before the start of a new academic year. It is important to ask questions, read all information carefully, keep copies of everything, and answer all questions on the application(s) accurately. The Financial Aid Office makes all decisions regarding financial aid eligibility.

For more information call:

Owens	(302) 259-6080
Stanton	(302) 454-3997
Terry	(302) 857-1040
Wilmington	(302) 434-5552

GENERAL STUDENT ELIGIBILITY REQUIREMENTS FOR ALL FINANCIAL AID PROGRAMS

The applicant must:

1. Be a U.S. citizen or eligible non-citizen.
2. Have a high school diploma, a GED®, or demonstrate the ability to benefit from instruction by passing an approved test.
3. Have a valid Social Security number.
4. Be enrolled as a regular student in an eligible program of study leading to a degree or diploma. New students must apply for admission in order to select a major/program. Undeclared or nondegree seeking students (students with program designation UND or NASNAD) are not eligible for financial aid.
5. Maintain satisfactory academic progress as defined by the College's Academic Standing Policy for financial aid recipients.
6. Not be in default on a previous student loan nor owe a refund on any federal grant received at Delaware Tech or any other institution the applicant may have attended.
7. Demonstrate financial need based on federal or institutional policies.
8. Comply with all procedures for verification.
9. Meet any other legal requirements passed into law and regulation at any time by the federal government, or any policy change made by the College or any other applicable entity, and any procedure required by the Financial Aid Office in order to ensure that a proper financial aid decision can be made.

APPLYING FOR FINANCIAL AID

The College will attempt to assist any student seeking financial aid. Financial aid eligibility decisions for all financial aid programs are made by each individual campus.

A student seeking financial aid must apply to the campus he/she will attend.

The steps for applying for financial aid are as follows:

1. Apply each academic year.
2. Students are encouraged to apply online at FAFSA.ED.GOV or mail the application in the envelope provided.
3. Obtain the financial aid application (the Free Application for Federal Student Aid-FAFSA) from any campus. This application is appropriate for applying for all types of federal, state and institutional aid. Scholarship programs require a separate application.
4. Complete the FAFSA using the appropriate federal 1040 income tax form, as filed by the students and parents, and any other supporting documents such as W-2 forms, state tax returns and Social Security, welfare, bank and investment statements.
5. Complete all institutional forms and supporting documentation as requested by the campus.
6. The campus will receive an electronic Institutional Student Information Record, which will be used to determine eligibility for financial aid. Students will receive an electronic or a paper Student Aid Report.

A student must file the FAFSA, complete a Master Promissory Note and complete Loan Counseling to be considered for a Stafford Loan. Stafford Loans are available through the Federal Family Educational Loan Program (FFELP).

SCHOLARSHIPS

Various scholarships are offered at all campuses. A student should contact the Financial Aid Office, at the campus where he/she is enrolled, for a list of scholarships offered at that campus. Scholarship information is also available on the College's website.

VETERANS, SERVICE MEMBERS AND DEPENDENTS OF DECEASED/DISABLED VETERANS AND SERVICE MEMBERS

Delaware Technical Community College is approved for the educational training of veterans, qualified spouses, and dependents of deceased/ disabled veterans under Public Law 89-358. Veterans and dependents of deceased/disabled veterans interested in obtaining

information and applying for benefits should contact the Office of Veterans Affairs at the campus they plan to attend.

Owens	(302) 259-6058
Stanton	(302) 454-3926
Terry	(302) 857-1056
Wilmington	(302) 857-5307

Veterans seeking educational VA benefits for the first time must submit a copy of their Service Discharge Form DD-214, DD-215 or DD Form 2384-1 to the Office of Veterans Affairs and complete a VA Form 22-1990, Application for VA Educational Benefits. Dependents of deceased/disabled veterans seeking educational VA benefits for the first time must complete and submit a VA Form 22-5490, Application for Survivors' and Dependents' Educational Assistance. These forms are available in the Office of Veterans Affairs.

The Department of Veterans Affairs issue a Certificate of Eligibility to the applicant as verification of entitlement. All veterans and dependents of deceased/disabled veterans must complete the College admission process before educational benefits can be received.

For information about the Priority of Service Policy for Veterans and Eligible Service Members, visit the Priority of Service Policy (Student Handbook, College Catalog).

OTHER MILITARY PERSONNEL

Active military, National Guard and Military Reserve personnel may be eligible for educational benefits related to their service category. Information concerning these benefits is available from the Educational Office of each service category. The College will verify enrollment for students so that benefits may be accurately processed.

VOCATIONAL REHABILITATION

The Delaware Division of Vocational Rehabilitation and the Vocational Rehabilitation Education Division of the Veteran's Administration have funds available for students with physical disabilities. Applications for these services should be made to the appropriate Rehabilitation Office.

Academic Policies and Procedures

ADVANCED STANDING

Students are encouraged to pursue advanced standing during the admissions process. Credits earned through advanced standing will be entered on the student transcript by the Registrar as they are received from the Dean of Instruction. Types of advanced standing are explained below.

CLEP and DANTES

Students who have taken CLEP (College-Level Examination Program) or DANTES (Defense Activity for Non-Traditional Education Support) tests may request CLEP or DANTES to forward the results to Delaware Tech for evaluation for credit for courses. Specific CLEP or DANTES tests which apply to the student's academic program may be granted corresponding Delaware Tech credit.

Credit by Examination

A student may receive credit for courses offered at Delaware Technical Community College by taking a competency evaluation administered by the department chairperson or his/her designee. The exact nature of the evaluation will be determined by the evaluator. In order to apply for credit by examination, the student must have completed the admissions process and request approval in writing for the course in which he/she wishes to receive credit by examination. In addition, the student must not have received prior instruction at Delaware Tech in the course in which he/she is seeking credit by examination.

Since no instruction has taken place, a grade will not be assigned to credits awarded by examination. Successful completion of a course by examination will appear on the student's transcript as "Advanced Credits." Credits earned by way of examination may not be applied toward the residency requirement of the College. A fee equivalent to tuition for one credit hour will be assessed for each course which a student attempts to complete by examination.

Advanced standing credits will appear on the transcript of a declared student only upon completion of at least one term of instruction and provided the student is in satisfactory academic standing.

Credit for Advanced Placement Tests

The College recognizes the Advanced Placement Program offered through the College Board of the Educational Testing Service and grants credit, upon documentation, for Advanced Placement Test scores of three or higher. In order to obtain Advanced Placement credit, the student must submit official test scores to the Admissions Office for review by the appropriate chairperson.

Credits from Foreign Institutions

College-level credits earned at institutions outside the United States may be evaluated for transfer. Students

will be required to submit transcripts with an official English translation by a professional foreign educational credentials evaluation service such as Worldwide Educational Service, North American Educational Group, AACRAO International Education Services, or International Education Research Foundation, if the original language for the institution is not English.

Age Limits on Courses

Delaware Tech does not apply blanket age limits to courses for the purpose of transfer in, meeting selective admissions programs' ranking/entrance procedures, or meeting program requirements in award completion. Age limits on courses for any of these purposes must be recommended by the relevant department chairpersons and approved by Academic Affairs administrators. Approved age limits on courses will be related to the competency(ies) students/graduates must demonstrate in the field, employment and other measures such as certification exams.

Approved time limits on applicability of courses to program admission and completion is available in program admission documents and on program web pages.

Evaluation of Transfer Credits

Credits from postsecondary institutions that are accredited by a U.S. Department of Education approved regional accrediting association will be accepted, if they apply to the established curricula of Delaware Technical Community College (Delaware Tech) and meet other requirements listed below.

Transfer Credit Evaluation Process:

- The student must request and arrange for an official transcript from transferring institution to be sent to Delaware Tech.
- The student must be admitted to Delaware Tech before transfer credits will be evaluated or posted to the student's academic history/transcript.
- The Delaware Tech department chairperson who has oversight for the subject will evaluate course(s) for equivalent learning outcomes to a Delaware Tech course(s) when the following criteria is met:
    - The student earned a grade of "C" or better in the course being evaluated for transfer;
    - The course is applicable to a Delaware Tech major;
    - The course is eligible for transfer consideration based on the Age Limits on Courses Policy. Approval of transfer credit for a course does not mean the transfer credit will satisfy selective programs' admission requirements or will apply to academic program requirements.

APPROVED AGE LIMITS FOR TRANSFER IN OF COURSES

DELAWARE TECH PROGRAM AND COURSES	YR. LIMIT (date approved by Deans)
CIS – Computer Information Systems	5 years (9/14)
CNE - Computer Network Engineering Technology	5 years (9/14)
CSC – Computing & Information Systems	5 years (9/14)
ISY – Information Security	5 years (9/14)
MLT-Medical Laboratory Technician	5 years (10/14)
WIS – Web Information Systems	5 years (9/14)

- Students requesting transfer credit may be required to provide supporting materials such as the course description(s) from the institution's catalog and/or course syllabus (syllabi) to complete the transcript evaluation.
- Once evaluation of the course(s) is complete, Delaware Tech will post all transferred courses to the student's Delaware Tech academic history/transcript.
- Notification of accepted and/or declined courses will be sent to students via the Delaware Tech email system.
    - Students may inquire with the appropriate department chairperson about declined transfer courses.
- Transfer credits may not be applied toward the residency requirements of the College.
- Students may check with their department chairperson regarding time limits and applicability of transfer courses to program admission and completion. Information is also available in program admission documents and in program web pages.

- Transfer credits for developmental courses will be accepted if the Delaware Tech department chairperson responsible for the developmental courses(s) approves the transfer course as equivalent to the Delaware Tech course(s). Transfer credit for a developmental course exempts relevant portions of the Accuplacer test.
- Students transferring to Delaware Tech with a previously awarded associate, baccalaureate,

master, or doctoral degree from a postsecondary institution accredited by a U.S. Department of Education approved regional accrediting association will receive advanced standing (transfer) credit for Critical Thinking and Academic Writing (ENG101) and Composition and Research (ENG102).

Inter-Campus Transfer of Advanced Standing Credits

Advanced standing credits approved by a Delaware Tech campus department chairperson and dean of instruction become a part of the student's permanent record and will not be suppressed or negated by any other campus of Delaware Technical Community College.

Internal Career Education Pathways Guidelines

Internal Career Education Pathways Guidelines provide a bridge for completion of Corporate and Community Programs' (CCP) non-credit programs/courses to advanced standing in designated Instructional Division credit programs/courses. A list of these approved opportunities is available from the campus CCP office, the campus Registrar and academic counselors. To receive advanced standing, the student must:

- Successfully complete the approved CCP course(s) and demonstrate mastery of course objectives as required for advanced standing.
- Request to receive advanced standing within the credit program's time frame for credit course transfer.
- Be admitted into the credit program.

Advanced standing for a non-credit course(s) does not exempt students from demonstrating college readiness. If the student's Accuplacer scores indicate they need developmental course work the completed non- credit course(s) does not exempt them from the required developmental courses.

Military Credits

Credits earned through military training and service with a grade of "C" or better may be evaluated for transfer if the courses were taken at a regionally accredited college or university. Courses must meet time limit guidelines, be applicable to a Delaware Tech major, and have equivalent learning outcomes to a Delaware Tech course. The American Council on Education's Guide to the Evaluation of Educational Experiences in the Armed Services is used in the evaluation of military training and experience for academic credit.

Prior Learning/Work Experience Assessment

Students seeking college credit through evaluation of non-credit prior learning or work experience must complete the competency based evaluation form to initiate an application for Prior Learning/Work Experience evaluation by the Department Chairperson. Students must be accepted in a program to apply for the evaluation process. Upon acceptance for the process, the student will pay a fee equivalent to tuition for a one-credit course.

Once the department chairperson accepts the student for the evaluation process, the chairperson or his/her faculty designee will guide the student to submit documentation to complete the evaluation process.

Transfer-Back Policy

Students who have transferred from Delaware Tech without earning an associate degree, diploma, or credit certificate may complete program requirements by transferring back courses that have been earned at other institutions and are approved as relevant to the award requirements of the major at Delaware Tech. If the student attended Delaware Tech within two calendar years, the transfer-back course(s) would be entered upon the student's record when the courses are accepted by Delaware Tech. If the student has not been enrolled in Delaware Tech for any of six consecutive terms, including summer sessions (two calendar years), the student must follow the readmission process and current curricular requirements for graduation. Time limits on completed Delaware Tech courses, as well as courses being transferred back, must meet departmental guidelines. The student must satisfy all requirements for graduation, including credits in residence.

Appeals Process

To appeal the evaluation or transferability of a course or prior learning/work experience evaluation, the student must submit a written request to the department chairperson responsible for the course for re-evaluation of advanced standing credit. The appeal must be made within 60 days of the notification of the declined course(s) and must include documentation for re-evaluation. Upon receipt of the appeal, the department chairperson will submit a copy of the appeal to the dean of instruction. The department chairperson will inform the student in writing within 14 working days if additional documentation for further evaluation is needed. The department chairperson will inform the student in writing of the final transfer credit decision.

ATTENDANCE

Each student is expected to attend class regularly in order to achieve maximum benefit from instruction. Course requirements and evaluation measures are

specified in writing and distributed at the beginning of the course. Attendance per se is not an approved evaluation measure. However, evaluation measures may necessitate attendance in order to demonstrate mastery of course objectives.

Faculty must maintain attendance records to comply with requirements related to veterans' and service members' benefits, social security benefits, and financial aid and scholarship programs, etc.(Rev. 6/29/12)

CONTRACT FOR ACADEMIC PROGRAM COMPLETION

The courses required for completion of each academic program are listed in the *College Catalog* and on the program sequence sheet. When a student is admitted and enrolled at the College, the course requirements in effect at that time are considered the academic program contract for the student. When a student changes his/her major or requires College readmission, the student's academic program contract is updated to the one currently in effect. Program requirements for completion are periodically updated. To take advantage of curriculum updates, a student may request approval from his/her department chairperson to change his/her academic program contract to reflect current requirements. A student may not change to a contract that was in effect prior to his or her initial enrollment in the academic program.

CURRICULUM CHANGES

A student may change his/her curriculum by consulting with a faculty advisor or counselor. Signatures are required from the advisor and counselor of the department from which the student is withdrawing, as well as from the advisor and counselor of the department to which the student seeks to be admitted. A completed Change of Program/Status Form must be returned to the Registrar's Office for the change of curriculum to become official.

COURSE DROP PROCEDURE

Students may choose to drop a course(s) by submitting a completed drop form to the Registrar or by completing the online drop procedure in Self-Service Banner. (The day the completed form is received by the Registrar's Office determines the official date of the course drop.) No approvals are required for students to drop a course(s) within the established time frames explained below. The following guidelines apply.

Courses dropped during the first two weeks of the semester (including the first two weeks of sessions 1, 2 and 3) will not show on the student's transcript and no grade will be recorded. Students will not be charged any tuition or refundable fees (lab, technology support and distance learning) for courses dropped during the first week of the semester (including week one of sessions 1, 2 and 3). Students will be responsible for 50% of the assessed tuition and refundable fees for courses dropped during the second week of the semester (including week two of sessions 1, 2 and 3). The following fees are non-refundable: application, registration, late registration, student service, credit by examination and evaluation of work experience. (See Tuition/Fee Adjustment Policy for detailed rules.) If a student drops a course and still maintains full-time load status, then he/she will not receive a refund.

From the third week through the tenth week of the semester (session 1), students may drop a course(s) and receive a "W" grade on their transcript. The "W" grade does not impact cumulative GPA, but it may negatively impact "time to completion" under the Financial Aid Satisfactory Academic Progress policy.

After the tenth week, courses may not be dropped. Student requests to drop a course(s) after the tenth week, with a grade of "W" for the course, will be considered only under extraordinary circumstances, which must be documented and approved by the Dean of Instruction or the Dean's designee.

The above timeframes for dropping a course(s) will be adjusted for academic sessions shorter than sixteen weeks.

Students who do not officially drop a course(s) according to these guidelines, but stop attending the course will receive an Unofficial Withdrawal grade (U) for the course. An Unofficial Withdrawal grade is calculated in the cumulative index as 0 quality points. An Unofficial Withdrawal grade in a course may affect financial aid or veterans' service members' benefits eligibility. The College is required by law to submit attendance reports on students who are funded by veterans' service members' benefits, social security payments and other state, federal and private financial aid and scholarship programs.

Students considering a course drop or withdrawal should weigh the impact on completion of their educational goals. Students should also check with the Financial Aid Office regarding the impact of dropping or withdrawing from courses on their financial aid eligibility and responsibility for costs. Instructions for dropping courses are available on the College's website.

WITHDRAWAL FROM THE COLLEGE

Students who wish to drop all of their courses should notify their department chairperson or academic

advisor. The chairperson or advisor will provide information to the student to help him/her consider the implications of the withdrawal and inform him or her of any college services and programs that may help him or her remain enrolled. The student's decision will be recorded in his/her Student Educational Plan. Students who decide to officially withdraw from the College with no plans to return within two years (six semester timeframe) should complete an Official Withdrawal form. Students are advised that Official Withdrawal will result in the requirement for re-admission, should the student decide to return in the future. In that event, the student will be required to complete the academic program requirements in effect at the time of readmission.

COURSE ADD PROCEDURE

Students may add a course or switch course sections by submitting a completed add form to the Registrar or by completing the online add procedure in Self-Service Banner. (The day the completed form is received by the Registrar's Office determines the official date the course is added/section is changed.) The following guidelines apply for session1, 2 and 3 courses.

During week one of the semester (including sessions 1, 2 and 3), students may add a course(s) or change sections if a seat is available. No approval signatures are required except under circumstances in which the course is part of a program with a selective admission process. In those cases, the signature of the Department Chairperson/designee responsible for the course is required.

During week two of the semester (including sessions 1, 2 and 3), students may add a course(s) or change sections if a seat is available and they obtain the approval of (1) the instructor and (2) their academic advisor or the chairperson of the department that offers the course.

During week three of the semester, students may add a course(s) or change sections if a seat is available and they obtain the approval of (1) the instructor, (2) their academic advisor or the chairperson of the department that offers the course, and (3) the dean of instruction or designee for the campus where the course is offered.

The above timeframes for adding a course(s) will be adjusted for academic sessions shorter than eight weeks.

Students should check with the Financial Aid Office regarding the impact that adding courses may have on their financial aid eligibility and responsibility for costs.

READMISSION TO THE COLLEGE

Students who have previously attended Delaware Technical Community College must follow the readmission process when they have not been enrolled at Delaware Tech for six consecutive terms including summer sessions (two calendar years). Readmitted students will be responsible for the current requirements of the program they are entering. Readmitted students will have a new contract year to reflect the current graduation requirements of the program. (Rev. 4/30/14)

VETERANS AND SERVICE MEMBERS READMISSIONS POLICY

I. Readmission Eligibility Requirements

Delaware Technical Community College students who interrupt their studies to perform service in the United States military are subject to separate readmissions procedures. Students who withdraw, take a leave of absence, or otherwise leave their studies at Delaware Tech on or after August 14, 2008, in order to serve in the U.S. Military, are subject to these readmission procedures if they meet the following conditions:

(1) The student served in the U.S. military for a period of more than thirty (30) consecutive days and provides appropriate documentation to prove such service to the Coordinator for Veterans and Service Members at his or her campus of enrollment.

(2) The student gave advance written or oral notice to the Coordinator for Veterans and Service Members at his or her campus of enrollment. A student is not required to indicate whether he or she intends to return to Delaware Tech upon completion of military service in the advance notice. Furthermore, the advance notice need not come directly from the student, but rather, can be provided by an appropriate officer of the United States Armed Forces or official of the United States Department of Defense. Advance notice is not required if it is precluded by military necessity. In such cases, the requirement for advance notice can be fulfilled by the student’s filing of an attestation that the student performed military service at the time the student seeks readmission.

(3) The student’s cumulative length of absence from Delaware Tech to perform U.S. military service, including all previous absences to perform U.S. military service and only the time the student spent actually performing military service did not exceed five (5) years. The five-year length of absence period does not include any service:

i) That was required, beyond five (5) years to complete an initial period of obligated service; or

ii) During which the student was unable to obtain orders releasing the student from a period of service in the U.S. military before the expiration of the five-year period through no fault of the student; or

iii) That the student was ordered to or retained on active duty.

(4) The student must have notified the Coordinator for Veterans and Service Members at the campus within three (3) years of the end of the U.S. military service of his or her intention to return to Delaware Tech. However, a student who is hospitalized or recovering from an illness or injury incurred in or aggravated during the U.S. military service must have notified the Coordinator for Veterans and Service Members within two (2) years after recovering from the illness or injury of his or her intent to return to Delaware Tech.

(5) The student did not receive a dishonorable or bad conduct discharge or have been sentenced in U.S. court-martial proceedings.

Students should contact the Coordinator for Veterans and Service Members at the campus of their enrollment to determine their eligibility for readmission under this Policy.

II. Readmission Procedures

Students who meet all of the above conditions ("eligible students") shall be *promptly readmitted* to Delaware Tech at the *same academic status* as the student had prior to leaving for military service.

A. Promptly Readmitted

Promptly readmitted means that the College will readmit the eligible students into the next class or classes in the service member's program beginning after the service member provides notice of his or her intent to reenroll, unless the service member requests a later date of readmission in writing to the Coordinator of Veterans and Service Members (not to exceed the time frame outlined in section I.3). A later date of admission may also be imposed on the service member for unusual circumstances, such as the time period required to prepare the service member to resume his or her course of study at the College.

B. Same Academic Status

Same academic status means that the College readmits the service member:

1. To the same program to which he or she was last admitted by the College unless the student requests or agrees to a different program. In the event that the program to which the student was last admitted is no longer offered, the College will readmit the veteran to a course of study that is most similar to the program that was discontinued.
2. At the same enrollment status that the student last held at the College, unless the student requests admission at a previous enrollment status.
3. With the same number of credit or clock hours completed by the student, unless the student is readmitted to a different program to which the credit or clock hours are not transferable.
4. With the same academic standing (e.g. with the same satisfactory academic progress status) the student had at the College immediately prior to leaving for military duty.

College placement test fees and placement test policies may be waived upon a review of the veteran's previous test(s) and submittal of military service documentation submittal to the campus Coordinator for Veterans and Service Members.

C. Tuition and Fee Responsibilities

For the *first academic year* in which the eligible student veteran returns to Delaware Tech, that student who is readmitted to the *same academic program* must also be readmitted with the same tuition and fee charges the student was or would have been assessed for the academic year in which the student left for military duty unless any increase of the prior amount is covered by the student's service member educational benefits. Should that veteran be *readmitted to a different academic program in his/her first academic year upon return*, the student may be charged the same tuition and fees as others in that academic program. Likewise, in *all subsequent academic years* and *for any program* in which the student was readmitted, the member of the armed forces may be charged the same tuition and fees as the others in the student's program.

If the veteran has an outstanding balance from previous year(s), the veteran must pay the balance by the end of the first semester s/he returns. If the balance is not paid by the end of the returning semester, then the College's business office will place a hold on his/her account (and s/he will therefore be blocked from class registration)

until the debt is paid.

D. Program Preparation

Should the eligible student's academic department determine that the member of the armed forces is not prepared to resume the program with the "*same academic status*" at the point where the student left off, or will not be able to complete the program, the College will make reasonable efforts at no extra cost to the student to help the student become prepared or to enable the student to complete the program including, but not limited to, providing refresher courses or placement testing at no charge to the veteran. If a veteran requests reinstatement preparation, then student will be referred to his/her academic advisor who will discuss available options and route the student to the appropriate academic department for possible program preparation actions. The determination of possible program preparation actions is decided by the academic department which offers the course. If program preparation is not deemed necessary by the academic department, but the veteran feels preparations are necessary, then the veteran bears any financial burden preparation necessitates.

The veteran will be awarded any program preparation at no extra cost for those eligible students who require such preparation as determined by the relevant academic department. This includes any additional fees (supplies and or books) that may be required for program. In the event that program preparation is completed through a course, the veteran should return to the Coordinator for Veterans and Service Members to coordinate costless course registration and book/supply purchasing with the business office and with the Delaware Tech bookstore. The veteran will not be charged a registration fee if the program preparation course is the only course the veteran registers for during that semester. If the program preparation is completed through a course and the veteran is receiving VA benefits, the course will be certified through the VA for reimbursement. If the veteran is receiving VA benefits but is not awarded VA benefits which cover 100% of the tuition and fees, the veteran will not be responsible for the remainder of the bill. The veteran may request that the course not be certified through the VA for reimbursement. In such cases, the student will not be charged for the course.

Once the veteran has met with his/her academic advisor, the advisor will update the veteran's Student Educational Plan (SEP). If program preparation is deemed necessary by an academic department, the academic department will note this in the veteran's SEP. The notation should include how the preparation will take form, evaluation of preparation results, and any dates by which preparation must be complete.

If the student does not complete the program preparation adequately within the amount of time designated by the academic department, then the veteran is then responsible for completing such program preparation without financial assistance from the College. This may delay timely reentry into the student's program.

E. Denial of Readmission

Veterans who do not meet the eligibility requirements set forth in the above are not entitled to be readmitted pursuant to this Policy. In addition, the College is not required to ultimately readmit the eligible student veteran on his or her return if:

1. *After reasonable efforts* by Delaware Tech, the College determines that the student is not prepared to resume the program at the point where he or she left off.
2. *After reasonable efforts* by Delaware Tech, the College determines that the student is unable to complete the program; or
3. The College determines that there are *no reasonable efforts* the College can take to prepare the student to resume the program at the point where he or she left off or to enable the student to complete the program.

AGE LIMITS FOR COURSES APPLIED TO GRADUATION

(Approved 4/30/14) Students may apply all approved transfer in and Delaware Tech completed courses toward certificate, diploma and degree requirements as long as they meet program specific requirements for technical relevance to the career field as measured by external outcomes such as licensure or certification exams. Program specific age limits on major or major support courses that may be applied to completion requirements are collegewide decisions approved by the academic program Chairperson(s), Deans of Instruction, and Associate Vice President for Academic Affairs/Vice President for Academic Affairs. These decisions are not subject to appeal. The list of approved age limits on major or major support courses which can be applied to program completion are below and can be found on the Delaware Tech Academic Programs web pages.

APPROVED AGE LIMIT FOR COURSES APPLIED TO GRADUATION

DEPARTMENT	DELAWARE TECH COURSES	YR. LIMIT
Human Services	HMS244	10 (June 25, 2014)
Drug and Alcohol Counseling	DAC244	10 (June 25, 2014)
Nursing	BIO120, BIO121, BIO125, MAT129,	10 (Aug. 10, 2014)

CHEM100

Computer Information Systems - CIS	Computer Information Systems Courses*	5 years (9/14)
Computer Network Engineering Technology - CNE	Computer Network Engineering Technology*	5 years (9/14)
Computing and Information Science - CSC	Computing and Information Science*	5 years (9/14)
Information Security - ISY	Information Security*	5 years (9/14)
Medical Laboratory Technician - MLT	Medical Laboratory Technician*	5 years (10/14)
Web Information Systems - WIS	Web Information Systems*	5 years (9/14)

*Courses completed more than five years ago will not be approved for transfer in to Delaware Tech. Courses completed at Delaware Tech or transferred in more than five years ago may only be applied to graduation requirements for students who have remained in active status (taking courses at least once every 6 semesters and not requiring readmission).

GRADE POINT SYSTEM (4.00)

The grade point average (GPA) for each student is based upon the scale of grade point values, and it is weighted for each course by its credit value. Cumulative grade point averages (CUM) are also based on the grade point values, and these have been maintained for all students enrolled since the fall of 1977. Effective fall 2012, the following grading policy is in effect:

Grading Policy
A 92-100
B 83-91
C 75-82
F 0-74
Note: From fall 1991 until fall 2012 a "R" grade was used instead of an "F."

The following is the College's grading interpretation:
Grading Interpretation
A Student meets the measurable objectives in an outstanding manner
B Student meets the measurable objectives in an above-average manner
C Student meets the measurable objectives
F Student has not met the measurable objectives and must repeat the course
L Listener/Auditor (with approval only)
I Incomplete
S Continuing Satisfactory (used only in courses with numbers under 100)
W Withdrawal with approval from College

U Withdrawal without approval from College

The following grades are included in the GPA calculation:
A 4.0 grade point value
B 3.0 grade point value
C 2.0 grade point value
F 0.0 grade point value
U 0.0 grade point value

The CUM includes the inactive grades "D" (Distinctive) and "P" (Proficient), which became inactive in the Fall Quarter of 1978.
D 4.0 grade point value
P 2.5 grade point value

Note: Students who receive an "S" grade and are receiving veterans Administration educational benefits will be paid for the course during the first term of enrollment only. If the student reregisters for the course, the course cannot be included in the total Veterans Administrations credit hours reported for benefits.

All students who receive an "S" grade must re-enroll in the course within the succeeding term in order to improve his/her grade unless exception is made by the Dean of Instruction or his/her designee.

The following grades are excluded from the GPA calculation:
I Incomplete
L Listener/Auditor
W Withdrawal with approval from the College

The following grades are given in Basic and Pre-Tech courses and are excluded in the GPA calculation:
AE Meets measurable objectives in an outstanding manner
BE Meets measurable objectives in an above average manner
CE Meets the measurable objectives
FE Has not met the measurable objectives and must repeat course
SE Continuing satisfactory

Definition of Terms:
Grade Point Value
is the value assigned to grades "A", "B", "C", "F" and "U". The inactive grades of "R," "D" and "P" will continue to carry grade point value historically.

Quality Point
is the product of the grade point value multiplied by the quality hours of the course.

Quality Hours
are the credit-hour value of those courses which are used in the calculation of the grade point average.

The Term GPA
is the total quality points earned during the term divided by the total quality hours attempted. Pre-tech and Basic courses will not be included in the calculation of term GPA. Term GPA will not be recalculated unless one of the two following conditions occurs: (1) an "I" grade is resolved or (2) a grade change is authorized.

Cumulative GPA
is the total cumulative quality points earned divided by the total cumulative quality hours attempted. The cumulative GPA is an historic index of all work taken at Delaware Tech and is not recalculated when a student changes majors. Work taken at other institutions is not included in the calculation of the cumulative GPA. Pre-tech and basic courses are no longer included in the cumulative GPA. The cumulative GPA at the end of each term will not be recalculated unless one of the two following conditions occur: (1) an "I" grade is resolved or (2) a grade change is authorized.

ACADEMIC AMNESTY PROCEDURE

The following criteria and application has been created to aid currently enrolled students who began their studies at Delaware Technical Community College prior to the conversion to a Semester system in the Fall of 1993 (94-1). To qualify, a student must complete The Petition for Academic Amnesty form and submit the form to the Dean of Instruction or his/her designee.

The following conditions apply:

1. Any student who has a non-completion grade (R, U) in a course prior to the Fall of 1993 (94-1) or has an enrollment date prior to 94-1 and has successfully repeated the course(s) (A, B, C grade) or the semester equivalent may petition the Dean of Instruction or his/her designee to eliminate the non-completion grade from the CUM grade point average calculation. Each non-completion grade in the same course will be eliminated from the CUM GPA calculation.

2. The student must submit a written application for Academic Amnesty to the Dean of Instruction or his/her designee.

3. If the request for Academic Amnesty is approved, the non-completion grade (R, U) will be replaced with an administrative grade (AR, AU). The administrative grade (AR, AU) will not be included in the students new CUM Grade Point Average.

4. All students are cautioned that many undergraduate professional programs, graduate and professional schools consider all grades listed on a transcript when considering

applications for admission and scholarship.

5. Academic Amnesty does not change accumulated Financial Aid history. Accumulated term and award limits include all terms of enrollment.

TRANSFER CREDIT EFFECT ON CUMULATIVE GRADE POINT AVERAGE

Students who have received approval for the transfer credit for courses previously completed at Delaware Tech with grades of "R," "F" or "U" may request that the effect of the "R," "F" or "U" grade be removed from their cumulative grade point average by submitting a request to the Registrar's Office with a copy of their unofficial transcript. All grades and courses remain on the student's transcript.

GRADE POINT AVERAGE ADDENDUM

When a student repeats a course, the first passing grade will be calculated in the cumulative grade point average (CUM GPA). A student can request that a higher grade (for coursework 1994-01 forward) be included in the CUM GPA by submitting a request to the Register's Office for coursework that was repeated spring 2007 forward. All courses taken and grades received will remain on the student's transcript, even though some will not be used to determine GPA. Selective admissions processes, scholarships and academic award decisions at other colleges and universities may take into consideration the complete academic record of the student.

FRESH START POLICY

Any student who has not attended Delaware Tech for a minimum of three years and upon readmission, completes a minimum of 12 college-level credits in consecutive terms with at least a 2.00 G.P.A. may petition the Dean of Instruction to eliminate the course grades received prior to the readmission term in the cumulative G.P.A. calculation except courses that fulfill graduation requirements. Fresh Start is granted only one time per student and is irreversible.

Fresh Start is effective the term a student is readmitted to the College and will not exclude credits from the earned hours calculation. All grades and courses remain on the student's transcript.

INCOMPLETE "I" STUDENT EVALUATION

Incomplete ("I") Student Evaluation
An Incomplete "I" evaluation may be awarded by an instructor in situations where extenuating circumstances prevent the student from completing the course work. The following conditions must be met:

1. The extenuating circumstances must occur after the drop/withdraw period has ended.
2. The student must be making satisfactory progress in the course.
3. It must be reasonable to complete the remaining course work and objectives under "I" circumstances (i.e., outside of the regular course format).
4. Prior to an instructor agreeing to give or post an "I" grade, approval for an "I" grade must be given by the department chairperson and Dean of Instruction responsible for the course.

Students who receive an incomplete course evaluation must complete the requirements for the course within the time frame specified by the instructor or by the end of the semester following the term in which the "I" is received if no time frame is specified. Otherwise the incomplete grade will be changed to a "F" grade, and the student must register for the course in a future term. For "I" grades earned at the end of the spring semester, the student will have until the end of the fall semester to complete the requirement, unless a shorter time period is specified by the instructor. The student and instructor determine how the incomplete portion of the course will be completed. If an instructor deems it essential that an incomplete be extended beyond the deadline, a request in writing should be sent to his/her chairperson for endorsement and then to the Dean of Instruction for approval. The request should include a projected date of completion and the reason for the requested extension. A student who receives an incomplete grade does not re-register for the course.

SATISFACTORY "S" STUDENT EVALUATION

The "S" evaluation is used only in courses with numbers under 100 where the student has progressed satisfactorily. This grade can be received only one time per course. The student must re-enroll in the course within the succeeding term in order to improve his/ her grade, unless an exception is made by the Dean of Instruction or his/her designee.

Note: Students who receive an "S" grade and are receiving Veterans Administration educational benefits will be paid for the course during the first term of enrollment only. If the student reregisters for the course, the course cannot be included in the total

Veterans Administrations credit hours reported for benefits.

LISTENER/AUDIT "L" EVALUATION

Students who wish to change from credit to Listener status must change their registration status prior to the end of the "add" period and will receive an evaluation of "L" at the end of the semester.

Students may change from Listener to credit status under the following conditions:

- The request must be made prior to the end of the "add" period;
- The student must meet all admission requirements for the College Instructional Division credit programs; and,
- Must have instructor, department chair and Dean of Instruction approval

ACADEMIC RECOGNITION

President's List
To be eligible for the President's List, a student must:

1. Earn 12 or more credit hours in courses at the 100
   level or above in one term.
2. Have a term GPA of at least 3.8.
3. Have no "I" or "S" grades. If "I" grades are later changed to passing grades, thereby affecting President's List eligibility, the student may request a letter noting President's List recognition. This letter may be used for employment, college transfer or other personal purposes.
4. Receive an "A," "B," "C," or "W" in all courses of enrollment below the 100 level.

Dean's List - Full-Time Students
To be eligible for the Dean's List, a student must:

1. Earn 12 or more credit hours in courses at the 100 level or above in one term.
2. Have a term GPA of at least 3.25.
3. Have no "I" or "S" grades. If "I" grades are later changed to passing grades, thereby affecting Dean's List eligibility, the student may request a letter noting Dean's List recognition. This letter may be used for employment, college transfer, or other personal purposes.
4. Receive an "A," "B," "C," or "W" in all courses of enrollment below the 100 level.

PART-TIME STUDENTS

A student will receive a letter of recognition, signed by the Dean of Instruction and Dean of Student Affairs, if the student has earned at least 6 credit hours but less than 12 credit hours in courses in one term at the 100 level or above, has a term GPA of at least 3.25, and meets requirement 3 of the Dean's List criteria.

GRADUATION HONORS

Students earning a Cumulative Grade Point Average between 3.25 and 3.49 will graduate *cum laude*. Those earning a CUM GPA between 3.5 and 3.79 will graduate *magna cum laude*. Those earning a CUM GPA between 3.8 and 4.0 will graduate *summa cum laude*. The Graduation Honors are printed on the graduation program and the student's final transcript.

COLLEGE POLICY ON ACADEMIC INTEGRITY

College Policy On Academic Integrity

This policy was developed to define academic dishonesty and to outline sanctions for those occasions when academic integrity is breached. Academic dishonesty, in any form, will not be tolerated. Students and staff of Delaware Technical Community College have an obligation to participate in the academic life of the college in a responsible and intellectually honest manner. As members of the Delaware Tech community, students have responsibilities and duties commensurate with their rights and privileges. One of these responsibilities is to be honest and forthright in their academic work. To falsify the results of one's work, to steal the words or ideas of another, or to cheat on an examination corrupts the academic process. Students acknowledge that, subject to the terms of this policy, the College has the right to apply the sanctions outlined in this policy including to withdraw any student at any time from a course or the College when it is necessary to safeguard the College's ideals of scholarship and character.

Forms of Academic Dishonesty

1. **Cheating**

Cheating is an act of deception by which a student misrepresents that he or she has mastered information on an academic exercise that he or she has not mastered. Examples of cheating include but are not limited to:

A. Copying from another student's work such as test paper, project, or computer program.

B. Allowing another student to copy one’s work.

C. Using unauthorized materials such as a textbook, notebook, cell phone or other technology/materials during testing or competency performance without permission.

D. Collaborating during a test or competency performance with any other person by attempting to, or actually, requesting or receiving information verbally, in writing or electronically without authority.

E. Using specifically prepared materials during a test that are not allowed (e.g. notes, formula lists, notes written on the student's clothing or person, etc.).

2. **Academic Misconduct**

Academic misconduct is the intentional violation of college policies by tampering with grades, taking part in obtaining or distributing any part of an unadministered test, or submitting the same student’s work in more than one class without permission. Examples of academic misconduct include but are not limited to:

A. Stealing, buying, selling, or otherwise obtaining all or part of an unadministered test.

B. Selling or giving away all or part of an unadministered test, including answers to an unadministered test.

C. Bribing or coercing any other person to obtain or attempt to obtain an unadministered test or any information about the test.

D. Changing or attempting to change a grade in a grade book, computer system, on a test, or on other work for which a grade has been given.

E. Changing, altering, or being an accessory to the changing or altering of a grade in a grade book, on a test, on a "change of grade" form, in an electronic system or in other official College academic records that relate to grades.

F. Obtaining or attempting to obtain an unadministered test.

G. Submitting written work to fulfill the requirements of more than one course without the explicit permission of both instructors.

3. **Fabrication**

Fabrication is the intentional use of invented information or the falsification of research or other findings with the intent to deceive. Examples of fabrication include but are not limited to:

A. Citation of information not taken from the source indicated.

B. Listing sources in a bibliography or other report not used in the academic exercise.

C. Inventing data or source information for research or other academic exercise including but not limited to fabrication of log entries or internship hours.

D. Submitting as your own any academic exercise prepared totally or in part by another.

E. Taking a test for someone else or the student permitting someone else to take a test on one’s behalf.

4. **Plagiarism**

Plagiarism is the inclusion of someone else's words, ideas, or data as one's own work. When a student submits work for credit that includes the words, ideas, or data of others, the source of that information must be acknowledged through complete, accurate, and specific references and citations, and if verbatim statements are included, through quotation marks as well. By placing his or her name on work submitted for credit, the student certifies the originality of all work not otherwise identified by appropriate acknowledgment. The student will avoid being charged with plagiarism if academic citations have been used accurately:

A. Whenever quoting another person's words.

B. Whenever using another person's idea, opinion or theory, even if it is completely paraphrased in the student’s own words.

C. Whenever borrowing facts, statistics, computer programs, or other illustrative materials-unless the information is common knowledge.

Informing Students about Academic Integrity

The College will inform students about the importance

of academic integrity including its relationship to professional integrity and success in the workplace and in higher education, and its role in protecting the public trust. This policy is published in the College Catalog. Additionally, information about academic integrity and this policy is provided in the *Student Handbook*; at New Student Orientation; in SSC 100, First Year Seminar; and on the portal.

Procedures for Adjudication of Alleged Academic Dishonesty

1. Instructors must investigate an alleged attempted or apparent act of academic dishonesty and review the evidence and incident to ensure it is sufficient to warrant a charge of academic dishonesty.

2. If the instructor believes that academic dishonesty has allegedly occurred, he or she must complete an Academic Dishonesty Report providing a complete description of the incident and evidence. The instructor must forward a copy of the Academic Dishonesty Report and the evidence to his or her department chairperson and the assistant dean of instruction (assistant dean) to notify them of the alleged violation. The report must be completed and forwarded to the individuals listed above within two (2) working days of becoming aware of the alleged academic dishonesty. The original assignment, test/ examination or other evidence must be kept by the instructor.

An instructor may not assign a disciplinary grade such as "F" or zero to an assignment, test, or other coursework as a sanction for admitted or suspected dishonesty in lieu of formally charging the student with academic dishonesty.

Note: In this policy when responsibility is assigned to the assistant dean, it may include his or her designee.

3. Upon receipt and review of the Academic Dishonesty Report and evidence submitted, the assistant dean must notify the student in writing regarding the alleged academic dishonesty and must forward to the student a copy of the Academic Dishonesty Report and a copy of the evidence. The assistant dean will notify the student that once a student has been informed that academic dishonesty is alleged, the student may not drop the course until charges of academic dishonesty are resolved.

The assistant dean must make every attempt to schedule a joint meeting with the student, the instructor and the department chairperson within ten (10) working days of receiving the Academic Dishonesty Report. When necessary, such meetings may be conducted by video-conference.

In such meetings every effort should be made to preserve a productive instructor/student relationship. The student must be given the opportunity to ask questions about all written documents and to respond to the allegation.

The student must be given the opportunity to accept responsibility for the infraction or to refute the charges. If the student accepts responsibility for the infraction, s/he must be asked to sign the Academic Dishonesty Report, thereby acknowledging that s/he is aware of the alleged violation, accepts responsibility for the infraction, and understands the possible sanctions. If the student accepts responsibility, then the assistant dean should continue to step 4 outlined below.

If the student does not accept responsibility and states that there are discrepancies in the accounts of the alleged academic dishonesty, the assistant dean will request that the student produce additional evidence/information relevant to the incident. The assistant dean may also attempt to acquire additional information, depending on the nature of the discrepancies. The assistant dean will determine and communicate to the student how long the student has to submit additional evidence. The assistant dean will review the additional evidence within 5 working days of receipt.

The student will be allowed to remain in class and complete course work until the assistant dean makes his or her determination of the outcome. If the alleged violation has not been resolved by the time grades are due, the instructor must assign the student an "I" grade. This grade will remain until the alleged violation is adjudicated.

4. If the assistant dean believes there was not an infraction of the Academic Integrity Policy, the instructor will clarify the standards of the assignment/test/examination/project with the student. In circumstances in which the assignment was not completed, an opportunity for the student to complete the assignment will be provided. In this case, the assistant dean will document the outcome on the Academic Dishonesty Report and maintain the document in the Office of Instruction.

If the assistant dean believes the student did violate the Academic Integrity Policy or if the student accepts responsibility for the infraction, he or she will determine the appropriate

sanction(s) in keeping with the Adjudication Procedures listed in this Academic Integrity Policy and will note such sanction(s) on the Academic Dishonesty Report.

The assistant dean will formally notify the student, the instructor and the department chair that the student has been found responsible for a violation of the Academic Integrity Policy and communicate the sanction(s). This communication to the student will be sent by certified letter, return receipt requested, within five (5) working days of reaching a determination that an infraction of the policy has occurred.

5. A student may appeal the decision by requesting a due process hearing with the Campus (for first and second infractions) or College (for third infraction) Academic Integrity Appeal Committee. If the student chooses to exercise his or her right to a hearing, he or she must notify the assistant dean in writing within ten (10) working days of receipt of the letter informing him or her of the decision and sanction. The student must advise the assistant dean in writing if he or she will exercise his or her right to bring an advisor or attorney to the hearing. The assistant dean will notify the chairperson of the Campus or College Academic Integrity Appeal Committee (depending on the infraction) of the student's request for a hearing.

6. Final determinations that a student completed an academic integrity infraction will be documented in the Maxient data base.

Sanctions for Academic Dishonesty

First Infraction: The assistant dean may impose an F grade for the course or a lesser sanction may be imposed (see example below) if warranted by the circumstances. Whenever an F grade for the course is imposed, the student will be required to complete an academic integrity tutorial within a timeframe set by the assistant dean.

An alternative sanction to the F grade may be imposed in situations in which the assistant dean believes, after reviewing the evidence and discussing the situation with the student, instructor and department chairperson, that the student did not understand his or her actions were a form of academic dishonesty and there was no intention to be dishonest. An example of this may be plagiarism by completely paraphrasing in one's own words another person's idea, opinion or theory without giving credit. In this case, the assistant dean could require the student to successfully complete within a set timeframe an academic integrity tutorial and/or an information literacy tutorial. If the student does not complete the assigned action(s) in the timeframe set, an F grade for the course would be imposed.

Additionally, in circumstances which do not justify an F grade for the course, a zero grade will be assigned for the assignment/test/examination/project in which the infraction occurred. The student will be required to re-complete the assignment /test/examination/project to demonstrate mastery of the learning objective or to demonstrate mastery through an alternative means determined by the instructor and approved by the department chairperson. The zero and the new grade will both be factored into the final grade for the course, in accordance with the weight approved for the specific course evaluation measure within the overall evaluation measures approved for the course, which could still result in failure of the course depending on the weight of the assignment in the course grade.

Second Infraction

If the assistant dean determines that a second infraction of academic honesty has occurred in either the same or another course, the student will be assigned an automatic "F" in the course in which the second infraction occurred. The student will be required to complete an academic integrity tutorial by a date determined by the assistant dean. A registration hold will be placed on the student's record until the academic integrity tutorial is successfully completed.

Third Infraction

If the assistant dean determines that a third infraction of academic honesty has occurred in either the same or other course(s), the student will be dismissed from the College. Dismissal from the College means that the student cannot continue in any course in which he/she is enrolled. The student will receive an F grade for the course in which the infraction occurred and a W for any other course in which the student is enrolled.

Appeals

The Campus Academic Integrity Appeal Committee will hear appeals of first and second infractions. The committee is composed of the dean of instruction, a faculty member appointed by the campus director, and the dean of student affairs. The dean of instruction will chair the committee.

The College Academic Integrity Appeal Committee will hear appeals of third infractions. The committee is composed of the dean of instruction from another campus, the associate vice president for academic affairs, and the assistant vice president for student affairs. The associate vice president for academic

affairs will chair the committee.

The Campus/College Academic Honesty Appeal Committees (Committees) will conduct their proceedings as follows. The hearing is closed to the public. The chair of the Committee will introduce the written appeal to the Committee.

The Committees will discuss issues, hear testimony, question witnesses and consider available evidence pertaining to the appeal hearing. The Committees may call upon the instructors, department chairpersons, academic counselors, and anyone else who may provide relevant information. The student must have the opportunity to present statements, testimony, evidence and witnesses; refute anything brought forth to the committee and present any relevant information in his or her defense; question witnesses who support the finding of responsibility and respond to questions by the members of the Committee/s. The student may bring an advisor or attorney to the due process hearing, but must advise the assistant dean of instruction in advance of the hearing.

The Committees will determine their findings of facts and the sanction(s) based on a standard of “beyond reasonable doubt.” Their written findings of facts and the sanction(s) will be submitted to the campus director and dean of instruction of the campus where the alleged infraction took place within 3 working days of the hearing, unless this time is extended for good cause by the Committee. The decision by Committee/s will be final and will be sent within 3 working days of the hearing to the student, the instructor and the department chair via certified mail, return receipt requested. The dean of instruction will authorize the registrar to record/change any grade.

The written findings of facts and the sanction(s) will be kept in a confidential file in the office of the Committee chairperson (campus dean of instruction or College associate vice president for academic affairs), and made available to the student for at least five years.

ACADEMIC STANDING POLICY

1. **Academic Standing**
   A student's Cumulative Grade Point Average (CUM GPA) for total credits attempted must be equal to or greater than that indicated on the "Minimum Cum GPA for Satisfactory Academic Standing Table" (below) in order to be in Satisfactory Academic Standing at Delaware Tech.

   The table below represents the Minimum Cumulative Grade Point Average for total credits attempted needed to be in Satisfactory Academic Standing at Delaware Tech. Official withdrawal from courses (W grades) are not counted in the GPA calculation.

Credits	Credits
1 - 15	>1.5
16 - 30	>1.6
31 - 45	>1.8
46+	>2.0

2. **Academic Warning**
   The first semester a student does not earn the minimum CUM GPA required for Satisfactory Academic Standing, the student will be placed on Academic Warning and restricted to a maximum of 13 credits in the next semester of attendance.

   A student who pre-registers for more than 13 credits in the next semester and is classified as in Academic Warning status after grades are processed, must make the necessary course credit load adjustment. If a student does not reduce his/her credit load to 13 or less, he/she will have their course load reduced by the academic advisor. The academic advisor will contact the student to provide advisement and assistance to make the credit load reduction. If the student cannot be reached or not follow-up as agreed, the student will be informed in writing, either by letter or email, before the academic advisor reduces the student's credits to 13.

3. **Academic Probation**
   A student will be placed on Academic Probation if in two successive semesters he/she does not earn the minimum CUM GPA required for Satisfactory Academic Standing for the number of credits attempted.

   A student on Academic Probation is restricted to a maximum of 9 credits. A student who pre-registers for more than 9 credits in the next semester and is classified as in Academic Probation status after grades are processed, must make the necessary course credit load adjustment. If a student does not reduce his/her credit load to 9 or less, he/she will have their course load reduced by the academic advisor. (The same procedure applies (explained above) as when a student must reduce his/her credit load to 13.)

4. **Status after Readmission**
   A student who withdraws from the College while on Academic Warning or Probation will retain that status when readmitted until he/she earns the minimum CUM GPA required for Satisfactory

Academic Standing.

5. **Appeal of Credit Load Restriction**
   A student on Academic Warning or Probation may appeal the credit restriction by completing the Academic Plan form and presenting it in person to the academic advisor and Dean of Instruction/designee for approval to register for more credits than Academic Warning and Academic Probation status allow.

6. **Successive Academic Probation**
   A student in Academic Probation status who does not earn the minimum CUM GPA required for Satisfactory Academic Standing or a semester GPA of at least 2.0 in the next or subsequent semesters will not be allow to register for the next semester unless the student establishes an Academic Plan with his advisor that is approved by the advisor and the Dean of Instruction/designee. The academic advisor and Dean may approve any number of credits for registration including none for that semester.

   A student who preregisters and is in the above situation after grades are processed, but does not establish an approved Academic Plan will have his/her registration deleted by the academic advisor. The academic advisor will contact the student to provide advisement and assistance to establish an Academic Plan. If the student cannot be reached or does not follow-up as agreed, the student will be informed in writing, either by letter or email, before the academic advisor reduces the student's credits to 0.

7. **Academic Suspension**
   Academic Suspension status is eliminated at the conclusion of summer semester 2011 (2012-53.) Students who would have been in Academic Suspension status under the previous policy will be treated as students who have been on Academic Probation for more than one semester.

Note: Satisfactory Academic Standing is just one of the three components required for "Financial Aid Satisfactory Academic Progress." The other two components are meeting "Maximum Timeframe" requirements and "Percentage of Courses Completed" requirements. See the Financial Aid Satisfactory Academic Progress Policy.

ACADEMIC STANDING POLICY FOR DEVELOPMENTAL EDUCATION

The Academic Standing Policy for Developmental Education serves to identify students enrolled in developmental education (courses below the 100 level) who are at risk for continuing academic failure and in need of academic advisement to support their future success and retention. The non-completion course grades listed below will trigger the following academic standing actions.

- 1 FE, RE or UE grade in the same developmental course = Academic Warning (13 credit limit) plus Data Hold on registration. The academic advisor's approval signature is required to register.
- 2 FE, RE or UE grades in the same developmental course = Probation 1 (9 credit limit) and Data Hold on registration. The academic advisor's approval signature is required to register. Students must complete an Academic Plan with their academic advisor.
- 3 FE, RE or UE grades in the same developmental course = Continuing probation status. Student must have an Academic Plan and the approval of the academic advisor and the Dean of Instruction to register for courses. The Dean may disapprove registration and recommend other courses of action the student must implement before subsequent registration is allowed. The Dean's decision is final.
- After completion of developmental course in subject area with a grade of CE or better, satisfactory academic standing would be restored.

In cases in which a student is enrolled in college level credit and developmental courses, the lowest level of academic standing will take precedence. Students may initiate the academic standing review procedure to request approval to exceed credit limits imposed by academic warning and probation.

FINANCIAL AID SATISFACTORY ACADEMIC PROGRESS

Effective July 1, 2011, financial aid recipients at the College are required to maintain Financial Aid Satisfactory Academic Progress (FASAP) in accordance with this policy. This policy supersedes all previous satisfactory academic progress eligibility requirements. Federal financial aid regulations require the College to consider the student's entire academic history, including any periods of enrollment in which the student did not receive federal/state financial aid, under this FASAP policy.

FASAP includes Cumulative Grade Point Average (CGPA), completion rate, and maximum time frame requirements, as set forth below, that a student must

meet in order to be eligible to receive federal/state financial aid. FASAP is just one of the financial aid award conditions that must be met. Students should see http://www.dtcc.edu/financialaid/ for a complete list of financial aid eligibility requirements. This FASAP policy is limited to the determination of federal/state financial aid eligibility and is separate from and in addition to the Delaware Tech Academic Standing Policy and any other academic policy at the College.

The College's Financial Aid Office shall review academic progress at the end of the fall, spring and summer semesters, each of which is financial aid payment period.
As a condition of receiving federal/state financial aid, each student at the College must make satisfactory academic progress toward the attainment of his or her degree according to the following three requirements that comprise FASAP. (Other award requirements also apply.)

Minimum Cumulative Grade Point Average:
The table below represents the minimum CGPA needed to be eligible for federal/state financial aid. Official withdrawal grades are not calculated in this CGPA calculation. The CGPA is calculated using all courses taken.

Credits Attempted	CGPA
1 - 15	>1.5
16 - 30	>1.6
31 - 45	>1.8
46+	>2.0

Completion Rate:
Students at the College must successfully complete, on a cumulative basis, 67 percent of all credits attempted. All non-completion grades ("W," "U," "R,"/F" and "I") are used in the calculation of completion rates.

Maximum Time Frame for a Degree/Diploma or Previous Associate Degree:

A financial aid recipient is restricted to a maximum number of credits for which he/she can receive financial aid. The maximum time frame (MTF) credit allowance is 150% of the published length of the eligible educational program in which the student is currently enrolled. For example, if 60 credits are required for a specific degree, the MTF for the degree program would be 90 credits (60 x 150% = 90). The published program lengths are available on the College web site and in the Catalog.

In addition, the credits from a previous diploma or degree program earned at Delaware Tech or elsewhere that are applied to a new degree program at Delaware Tech will be counted toward the MTF for the new degree program.

Maximum Time Frame for Remedial Courses:
Basic and Pre-technical classes are considered remedial courses. Basic classes are not eligible for federal financial aid payment, but are used in calculating the remedial MTF.

The MTF for a student enrolled in remedial courses is 30 semester hours. This MTF value is separate from the degree or diploma MTF value. No extension is permitted for a student who exceeds the 30-credit remedial limit.

Repeat Coursework:
Repeating failed coursework may be funded by financial aid. In addition, one repetition of previously passed coursework is eligible for federal financial aid. However, a previously passed course is not eligible for financial aid if it is being repeated because the student failed other coursework (e.g., must repeat the course again because of co-requisite requirements).

Repeating a course may improve CGPA, but each attempt impacts the completion rate and maximum time frame.

Transfer Students:
Coursework completed at another institution that is officially accepted as transfer credit by the College counts toward MTF and the cumulative completion rate. However, the grades from other institutions do not transfer to the College and are not considered under the minimum CGPA component of FASAP.

FASAP Process

End of Semester Review
The Financial Aid Office will review the academic record of each financial aid recipient at the end of each semester to determine if she/he is making satisfactory academic progress for program completion. Students who do not meet one or more of the CGPA, completion rate, or MTF requirements listed above are not considered to be making satisfactory academic progress and are subject to the following:

Financial Aid Warning
Beginning with the Fall 2011 semester, the first time the student has not met the CGPA or the completion rate, the student will be notified that he/she has been placed on *Financial Aid Warning status*. A *Financial Aid Warning* allows a student to continue to receive financial aid for only the next semester. A Financial Aid Warning will be assigned automatically and does not require an appeal or other action by the student. At the end of the *Financial Aid Warning* semester, the student who does not meet the FASAP requirements is ineligible to receive further federal/state financial aid unless the student makes a successful *Financial Aid Appeal* as described below. In the absence of a successful Financial Aid Appeal, the student may only regain eligibility for federal/state financial aid by meeting the College's FASAP requirements at his or her own expense.

A student who exceeds MTF requirements is not eligible

to be placed on *Financial Aid Warning* status. Instead, beginning with the Fall 2011 semester, the first time the student has not met MTF the student must make a successful *Financial Aid Appeal* in order to be eligible for further federal/state financial aid.

Financial Aid Appeal and Probation
A student who does not meet FASAP requirements after the *Financial Aid Warning* semester, or a student who exceeds MTF for the first time, may appeal to have financial aid eligibility reinstated if extenuating circumstances prevented the student from meeting FASAP. Such circumstances include:

- Medical condition, illness or injury, to the student or an immediate family member (*Provide documentation*)
- Death of an immediate family member (*Provide documentation*)
- Change or loss of employment for you or an immediate family member (*Provide documentation*)
- Other special circumstance (*Be Specific*)

The *Financial Aid Appeal* process requires the student to complete a Delaware Tech Financial Aid Appeal Form. The student must explain on the Appeal Form the reason(s) the student failed to make FASAP and what has changed in the student's situation that would allow the student to make FASAP at the next evaluation. Relevant documentation must be attached.

In addition, the *Financial Aid Appeal* process requires the student to submit an academic plan signed by an Academic Advisor with the completed Financial Aid Appeal Form to the Financial Aid Office by the appeal deadline for that semester. The academic plan sets forth the requirements the student must meet to make FASAP. The academic plan must include the maximum number of credits recommended by the Academic Advisor for the time period of the academic plan. Please note that if a student registers for additional credits beyond the number approved in the academic plan, then the student is responsible for the cost of those additional credits. However, a student *may* receive financial aid for additional credits beyond those approved in the academic plan only if a new academic plan signed by an Academic Advisor and Dean of Instruction authorizing these additional credits is submitted by the student to the Financial Aid Office by the appeal deadline for that semester.

The Financial Aid Office will respond in writing with the results of the appeal and explain what the student must do to reestablish eligibility for federal/state financial aid. Submitting an appeal does not guarantee that the student will regain financial aid eligibility. The decision of the Financial Aid Office regarding the *Financial Aid Appeal* is final.
If a FASAP appeal is not approved, then the student is ineligible for financial aid until satisfactory academic progress is achieved at his/her own expense.

If the appeal is approved by the Financial Aid Office, the student is then placed on Financial Aid Probation. A student placed on Financial Aid Probation may receive federal/state financial aid as long as the student is satisfying the requirements of an approved academic plan.

Financial Aid Probation
If after the one semester of *Financial Aid Probation*, the College determines that the student achieved FASAP, he/she will have his/her financial aid eligibility reinstated for the next semester of attendance. Thereafter, such student's academic progress will be evaluated in accordance with this FASAP policy.

If after the one semester of *Financial Aid Probation*, the College determines that the student met all the requirements of his/her academic plan, but did not achieve FASAP, he/she will be permitted to continue to receive financial aid for the next semester and subsequent semesters of attendance provided that the student continues to meet all of the requirements of the academic plan.

If after the one semester of *Financial Aid Probation*, the College determines that the student did not meet all the requirements of the academic plan nor successfully achieved FASAP, the student will lose financial aid eligibility until the student achieves FASAP at his or her own expense. Students may make another appeal for financial aid eligibility by submitting a new Financial Aid Appeal Form and providing a new academic plan. However, students are advised that Financial Aid Appeals for academic plan deficiencies will only be approved for changes to the student's major and required courses - or in the most extenuating of circumstances- as determined by the Financial Aid Office.

All information is subject to change based on revisions to federal laws, regulations, or college policies and procedures. Students are required to abide by any such revision

CREDIT HOURS

Students registered for 12 or more credit hours (or equivalent) are considered full-time. A student registered for less than 12 credit hours per semester is considered to be part-time. The class hours, laboratory hours, and total credits are printed in the College Catalog following each course description. The total credits, class hours and laboratory hours are printed. *Example: (4:3:3)*

CREDITS IN RESIDENCE

Candidates for the associate degree must complete a minimum of twenty-four (24) credits of course work at Delaware Technical Community College. At least twelve (12) credits of the residence requirement must be major courses from the program in which the degree is awarded. Candidates for the diploma must complete twelve (12) credits of the residence requirement with six (6) credits in major courses. Candidates for the certificate must complete all course credits at Delaware Technical Community College. Credits earned under the Advanced Standing Policy may not be applied toward the residency requirements of the College. Exceptions to this policy may be made with the approval of the Deans of Instruction, Assistant Vice President for Curriculum and Instruction and Vice President for Academic Affairs.

CREDITS IN RESIDENCE FOR ACTIVE-DUTY SERVICE

Academic residence for all degrees for active-duty service members is limited to no more than twenty-five percent of the degree requirements. Of the twenty-five percent, at least twelve credits of the residence requirement must be in major courses from the program in which the degree is awarded. Academic residence can be completed at any time while active-duty service members are enrolled. Reservist and National Guardsmen on active-duty are covered in the same manner.

GRADUATION POLICY

A student is eligible for graduation when the following requirements have been met: (1) The student has satisfactorily completed courses specified for a degree or diploma in his/her program/major area as certified by the department chairperson and the Dean of Instruction and verified by the Registrar; (2) The student has filed an official application for graduation with the Office of the Dean of Student Affairs; (3) The student has satisfied all financial obligations owed the College; (4) The graduation fee has been paid; and (5) The Credits in Residence requirements have been met. No Delaware Technical Community College diploma or degree is to be awarded or the student allowed to participate in official graduation ceremonies unless that student has completed all requirements for said diploma or degree. Exceptions to this policy may be made by the Vice Presidents/Campus Directors and/or the Vice President of Academic Affairs.

Campuses

SUSSEX COUNTY LOCATION

JACK F. OWENS CAMPUS
21179 College Drive
Georgetown, Delaware 19947
(302) 259-6000

The Owens Campus, named for the College's first Vice President and Campus Director, is the county hub for higher education. The 146-acre campus provides Sussex County with comprehensive educational opportunities, including degree programs, skill development, pre-college youth programs, and community outreach. This optimum level of programming enables the campus to serve 16,000 people each year.

The College is accredited by the Middle States Commission on Higher Education. In addition, 13 programs have earned national program accreditation by their professional accrediting organization. This status ensures that the educational processes at the campus are of the highest quality, meeting rigorous national standards. Each program has a community-based advisory board of employers that enables programs to be up-to-date and to produce work-ready graduates.

The complex of buildings includes: the Jason Technology Center (classrooms, engineering, computer and medical labs, educational technology labs, faculty offices, bookstore); the Arts & Science Center (health programs, the Learning Center, theatre, art gallery); Student Services Center (admissions, registration, business, financial aid, counseling services, student activities, dining hall); Stephen J. Betze Library; Child Development Center; Trades & Industry Building; Environmental Training Center; the Center for Language and Culture; and the William A. Carter Partnership Center, which features partnerships between the College and the county's public schools and senior institutions of higher education.

Through its partnerships with Delaware State University, Wilmington University, and the University of Delaware, Delaware Technical Community College graduates have the opportunity to pursue selected bachelors, masters, and doctoral degree programs at the Owens Campus.

Other facilities on campus are the horticulture center and a recreational complex. Off-campus sites include a facility for Commercial Transportation training located at the county industrial airpark, and the John & Elsie Williams Conference Center in Millsboro.

To broaden and strengthen the educational opportunities for its students, Delaware Technical Community College has "connected degrees" with colleges/universities in Delaware, Maryland, and Pennsylvania. Following an established curriculum for a connected degree, students earn the associate degree at Delaware Technical Community College and then

take specific courses to complete the bachelor's degree with the partner institution.

Reinforcing its commitment to community service, the Owens Campus has established educational partnerships with Cape Henlopen School District, Gumboro Community Center, and Bethany/Fenwick Chamber of Commerce. These partnerships enable residents to seek higher education or pursue non-credit offerings at a convenient local site.

STEPHEN J. BETZE LIBRARY
The Stephen J. Betze Library holds over 60,000 physical items, including print and recorded books, journals, newspapers, and DVDs. Borrowers can have additional items delivered free of charge through the statewide Delaware Library Catalog. Students also have access to continuously updated online databases for electronic research.

Equipment and facilities available to students include networked desktop computers, printer/photocopiers, scanner, fax machine, and group and individual study areas. Additional information is available on the Delaware Tech libraries' webpage at http://www.library.dtcc.edu.

INSTRUCTIONAL COMPUTER
Twenty instructional computer labs are located in the Jason Technology Center. Each lab contains a total of 20 student workstations and one instructor's workstation that is connected to an overhead video projection unit for student viewing. The labs also contain a VCR and a high speed laser printer.

The Open Lab, available to all students during the day and evening, has 60 computers with CD-RW drives that contain the same software utilized in the classroom labs. Specialized software offers additional support to students in their areas of study. The Open Lab also contains transcription machines, workstations, scanners, laser and color printers.

The Learning Center offers peer and instructor tutoring, computer assistance, and course related software programs. The programs and services of the Learning Center are available to all students at Delaware Technical Community College, Owens Campus.

CAREER PLANNING & PLACEMENT
The Career Services Center is the point of contact for students and alumni who want to learn about career opportunities.

The Career Services Center is the central location for reference books, online college catalogs, and resume critique services. The Center offers a variety of services including an internet-based career planning program, interviewing techniques, job search strategies, occupational information, career building workshops, an electronic employment data bank that offers employers, students, and alumni an exclusive opportunity to post jobs and resumes, as well as college transfer information and internet access.

ATHLETICS/RECREATION
Intercollegiate Athletics
The Owens Campus competes in Region 19 of the National Junior College Athletic Association (NJCAA) in three sports: baseball, softball and golf. Athletic eligibility is certified through the Athletic Director's Office and verified on the regional and national level by the NJCAA.

Recreation Facilities
As a community focal point, recreational activities are planned for both student and community use. Outdoor amenities include a Life Course, picnic pavilion, baseball and softball fields, regulation horseshoe pits, a marked walking track, and volleyball courts. Indoor facilities available for students include basketball, volleyball, table tennis, a fitness and wellness center.

NEW CASTLE COUNTY LOCATIONS

Delaware Technical Community College's Stanton/Wilmington Campus has two locations in New Castle County. The Stanton Campus location is in a suburban area of the county, and the Wilmington Campus location is about seven miles away in downtown Wilmington. Free shuttle bus services run between the two locations during daytime hours.

Stanton/Wilmington Campus

STANTON:
400 Stanton-Christiana Road
Newark, Delaware 19713
(302) 454-3900

Situated on a hundred acres of rolling countryside, the suburban Stanton Campus site is located just off Exit 4 of Interstate 95. The campus' convenient location allows easy access from all parts of New Castle County. Instructional facilities at Stanton include nursing, computer, science, and engineering technology laboratories, a culinary arts kitchen and demonstration dining room, automotive programs and laboratories, a newly renovated library and career center, and computer labs. The campus has a spacious and modern cafeteria and bookstore, a conference center which holds up to 250 people, and instructional television classrooms. Instructional television classrooms are equipped with state-of-the-art distance learning technology; both fiber optic and satellite equipment are utilized. The Industrial Training Facility houses the industrial training programs in areas such as employee development and environmental health and safety.

Stanton Campus enrolls more than 11,000 students in

day and evening credit courses and non-credit corporate and community program courses.

Programs offered include science and engineering technologies, nursing, criminal justice, and culinary arts.

WILMINGTON:
333 N. Shipley Street
Wilmington, DE 19801
(302) 571-5300

Located in the Christina Gateway section of downtown Wilmington, the campus consists of three modern education buildings. The East Building houses the cafeteria, bookstore, classrooms, career center and laboratories for instructional purposes. The West Building contains instructional classrooms and laboratories, and the library. A 450-car capacity garage and surface parking facilities are adjacent to the Campus. The Southeast building includes classrooms, labs, offices, a dental clinic, an amphitheater with seating for 100, and an instructional television studio.

Credit and non-credit enrollment at Wilmington totals over 6,000 students yearly.Academic programs offered include allied health, public service and business/computer-relatedprograms.

An extensive English as a Second Language program and federal and state-funded job training programs offered by the Corporate and Community Programs Division are also available at the Wilmington Campus site.

STANTON/WILMINGTON CAMPUS LIBRARIES
The Stanton/Wilmington Campus has library collections which are tailored to the technologies offered at each location. The library databases provide numerous articles from journals, technical magazines, other periodicals, and reference works. The Delaware Library Catalog provides information on the book, audiovisual, magazine, and journal holdings of both campus sites as well as the holdings of the public and some academic libraries in Delaware. The combined library collections have over 69,000 volumes/items and 600 periodicals on general and technical topics. Daily courier service transports books and other materials from one campus site to the other and to other libraries in the state.

Both libraries offer a number of desktop and laptop computers for in-house use. Listening and viewing equipment is available along with scanners, and copy machines. Group study rooms, individual study carrels, study tables, and comfortable lounge seating are provided as well. Additional information about the libraries is available on the "Libraries" page of the College website.

Stanton Campus Library has a Web presence at library.dtcc.edu/stantlib/index.html, and Wilmington Campus Library at http://www.library.dtcc.edu/wilmlib/index.html.

MICROCOMPUTER LABS
Both campuses have several computer classrooms as well as a designated open lab that students can use outside of class hours. Lab personnel are always available to offer assistance.

All students taking credit classes will receive an Internet e-mail account after registration. The account will remain active as long as the student continues to register for each semester without interruption. The Internet is used in many classes for research as well as communication with the instructor. All computer labs and libraries on campus have Internet access. Limited remote access allows students with suitable home computer equipment to check their e-mail from home.

CAREER PLANNING & PLACEMENT
The Career/Placement Centers offer career assistance to students and members of the community. Services include DISCOVER (a computerized career planning program), individual and group counseling, interest and skills assessment, job search strategies, and college and transfer information. The centers hold career and job information in the forms of publications, slides, films, videos and books. Students receive assistance in the total job-hunting process including interview preparation, resume writing and job-search techniques. A list of up-to-date full-time and part-time jobs is also available for students.

ATHLETICS/RECREATION
Intercollegiate Athletics
The Stanton/Wilmington Campus competes in intercollegiate athletics as a member of the National Junior College Athletic Association (NJCAA), which includes schools in New Jersey, Southeastern Pennsylvania and Delaware. The women's volleyball team has been consistent Region 19 Champions, and many campus athletes from all sports have been named to All-American teams.

Athletic eligibility is certified through the Athletic Director's Office and verified on the regional and national level by the NJCAA. Students from either campus compete in: women's volleyball, men's soccer, men's basketball, and women's softball. The campuses have also sponsored students with outstanding success in individual sports (for example, golf, tennis, cross country, wrestling) in NJCAA regional and national events.

Recreational Facilities
The Stanton/Wilmington Campus has a variety of recreational facilities for student use. A multipurpose gymnasium and athletic fields accommodating a wide range of recreational, intramural and collegiate sporting events are located at the Stanton Campus site. Racquetball and basketball courts are available at

Wilmington. Both locations contain Fitness Centers housing Nautilus and other fitness-related equipment. Activity Coordinators organize intramural sport programs throughout the school year.

KENT COUNTY LOCATION

CHARLES L. TERRY CAMPUS
100 Campus Drive
Dover, Delaware 19904-1383
(302) 857-1000

Named in honor of the late Governor Charles L. Terry, Jr., the Terry Campus is located in the northern part of Dover, Delaware's capital city. The Campus serves as a higher education resource located in central Delaware. The Terry Campus prides itself on the personal attention it provides its students. Each matriculated student is assigned both a counselor and an advisor to help guide them through their chosen academic program. More than 4,000 full-time and part-time students enroll each year in diversified associate degree programs, diploma and certificate programs and special interest offerings.

All degree, diploma and credit certificate programs have published competencies students will master upon program completion. Program areas include energy management, engineering technology, health care, surgical technology, business, and public services. The Campus' Corporate and Community Programs Division provides an additional resource for individuals and employers with customized training and retraining services.

The Campus' learning environment offers on-campus and distance education courses to meet students' educational needs. Classes meet in the Terry Building, Science and Engineering Technology Center, Conference and Training Center, Center for Energy Education and Training, and Education & Technology Building. Classroom instruction is supplemented by individualized resource learning labs. The lab facilities provide students with flexible and varied opportunities to master course objectives and curriculum competencies.

Classes are conducted year-round with day, evening and weekend offerings. Applicants are accepted for each of the academic semesters, as well as the summer session. Financial aid and scholarships are available to qualified applicants. The Conference Center provides WiFi capability, Voice and Video over Internet Protocol (VoIP) technology that enhances distance learning in the classroom, and seating for up to 600 people, which can be divided to accommodate simultaneous programs.

TERRY CAMPUS LIBRARY
The Terry Campus library is located in the Terry Building, on the first floor, directly behind the receptionist desk. Library hours are posted and online at our College wide Library web site for each library at http://www.library.dtcc.edu . The Terry library provides academic support to students and faculty of Delaware Tech through a variety of services. A technical lending library of resources is available through the Delaware Library Catalog and college specific databases are available through the Blackboard portal.

A Delaware Tech I. D. is required to register as a library patron and to utilize the library services.

Terry Library offers a number of desktop computers for in-house use. Group study rooms are also provided.

Terry Library has a Web presence at http://www.dtcc.edu/terry/library/

RECREATION FACILITIES
The Terry Campus has a Wellness Center that houses a variety of strength training and cardiovascular equipment. The programs provide regular exercise, health/wellness education and recreational workouts for the benefit of the students and employees. Cardio-Kinetics, Inc. has a full-time Exercise Physiologist who manages and operates the Wellness Center Monday through Friday. The professionally staffed facility is open daily to all students and employees who present a current Delaware Tech ID card. Outdoor facilities include tennis, volleyball and basketball courts, athletic fields, walking trails, and a picnic pavilion.

Programs of Study

At Delaware Technical Community College students may be accepted in associate degree, diploma or certificate programs.

ASSOCIATE DEGREE PROGRAMS

The Associate in Applied Science degree curricula prepare students for immediate employment and provide a balance between the studies necessary to earn a livelihood and those needed for understanding and participating in social, political, and cultural activities. The Associate of Arts in Teaching Degree curriculum prepares students to transfer to a senior institution in order to complete a baccalaureate degree in teaching. Classes are scheduled in the early morning, late afternoon, evening and/or weekends to meet the students' demands. Distance Education classes are also available. The College provides quality instructors, experienced Academic counselors, and other support staff to all students.

If you plan to transfer to another college after completing an associate degree at Delaware Technical Community College, consult with your academic advisor to determine whether your associate degree program is articulated with a senior institution. These connected degree programs (www.dtcc.edu/connecteddegree/) have transfer provisions you need to know. For other transfers, consult the College catalog or the Admissions Office of the institution which you plan to attend as soon as possible. Transferability of courses and programs is determined solely by the institution to which the student transfers.

DIPLOMA & CERTIFICATE PROGRAMS

Diploma and certificate programs and courses prepare students for specific employment. All programs are tailored to meet the needs and abilities of the individual and to provide a marketable skill which will enable him/her to compete successfully in the job market. Additional information may be obtained by calling the Admissions Office at your nearest campus.

STUDY ABROAD OPPORTUNITIES

Delaware Technical Community College is currently offering short-term study abroad courses. These credit courses with an integrated study abroad component are generally offered during the summer semester lasting approximately ten to twenty-one days. Many of these courses can/will be accepted as an elective to curriculum programs. For a list of current study abroad opportunities, contact your International Education Coordinator at your home campus or visit the International Education webpage at: http://www.dtcc.edu/future/international.

COOPERATIVE EDUCATION/INTERNSHIP PROGRAMS

Cooperative Education/Internship is a partnership between the student, business, industry, government, or service agencies, and the College. This work experience is available in selected academic programs and may be scheduled for one or two semesters. The College classroom exposes the students to facts, theories, and principles; the student applies those principles and theories in an actual job environment. A student on a co-op/internship can receive training and experience in a professional environment that supplements learning in a campus lab, classroom, or library.

ENGLISH AS A SECOND LANGUAGE

The ESL program serves the varied needs of persons for whom English is not a native language. Participants can develop communication skills which will enable them to succeed in the United States. English skills will be developed so that students can prepare themselves to participate more independently in American society and, if they desire, pursue a college degree.

SPECIALIZED OCCUPATIONS

The Specialized Occupations program was established to meet the special training needs of Delaware business, industry, and professions. The objectives are twofold:

1. To satisfy the educational needs of employers and employees in areas where employment opportunities are too limited to justify establishment of formal education programs.
2. To prepare employees for new or increased responsibilities at their present place of employment through a combination of college-level studies and appropriate on-the-job experience.

SERVICE MEMBERS OPPORTUNITY COLLEGE (SOC)

As a recognized service member's Opportunity College, the College has established programs geared to the needs of veterans and service members. Advanced credit for non-traditional and/or military education and experience is available through departmental testing and evaluation. The College grants credit by examination through the use of departmental examinations, the College-Level Examination Program (CLEP) and/or DANTES (Defense Activity for Non-Traditional Education Support). SOC guidelines are applicable to all programs offered by the College.

CORPORATE AND COMMUNITY PROGRAMS

The Corporate and Community Programs Division provides a broad range of education and training geared to meet specific corporate and community needs. The Division serves its constituency through programs in four main areas: Conferences & Seminars, Community & Continuing Education, Corporate & Contract Training, and Workforce Training. The Corporate and Community Programs Division is the outreach arm of the College, encompassing special projects not available through other instructional areas.

DISTANCE EDUCATION

Delaware Technical Community College offers The Center for Creative Instruction and Technology (CCIT)

Mission

The mission of the Center for Creative Instruction and Technology at Delaware Technical Community College is to assist and inspire educational creativity and excellence.

The CCIT staff pledges to enable, educate, and support our academic partners as they combine their subject matter expertise with our understanding of instructional design and state of the art educational technology applications. Together, we will strive to design experiences that increase student performance, satisfaction, and demonstrate innovation in both face-to-face and virtual learning environments.

Services

The CCIT staff is available to provide the following services.

- Instructional Design and Technology Consulting and Services
- Administration of the Instructional Design and Technology Certificate Program
- Multimedia Consulting, Training and Production
- Foundational Technology Consulting, Training and Support
- Research Assistance and Support
- Special Projects

Blackboard 9

Overview

Blackboard 9 features a streamlined navigation system and improved course setup process. The latest version of Blackboard offers new and improved social learning tools such as blogs and journals, easier navigation, and other Web 2.0 technologies that allow for greater interactivity and collaboration. Blackboard 9 uses a Web 2.0 interface that allows users to drag and drop items that appear on the screen, select from drop down menus, and access contextual help.

Interface

Course content creation and editing tools are embedded throughout the course and no longer require the instructors to access the Control Panel. Instructors click on the Edit Mode switch in the top right corner of any Blackboard page.

All options in the Control Panel are available from the main Course Menu. Instructors have direct access to edit and organize the Course Menu and may use the drag and drop feature to change the order of menu items. Course Menu items that do not contain any content are automatically hidden from student view but are visible to the instructor while in Edit Mode.

In addition, Bb 9 has eliminated the separate receipt page that the user sees every time they successfully perform an action. Confirmations now appear on the same page on which the user is working.

File Collection and Exchange

The Digital Drop Box has been replaced by the Assignments Tool. This tool allows instructors to download all of the student files for a particular assignment in a single zip file. Blackboard automatically renames each student's file to include the name of the assignment, the student's username, and the filename the student originally submitted. There is a Group File Exchange that works like the old Digital Drop Box, for Groups only.

Blogging and Journal Tools

Blackboard 9 has a built in private Blog and Journal tools that allow students to create and share ideas with their instructors or other students enrolled in the same class. Both of these tools may not be viewed outside Blackboard.

Individual journals allow students to record what they are learning. These thoughts can be private between a student and instructor or shared with others in the course. The author and the instructor can add comments. Group journals allow groups of students to reflect collaboratively and comment on group member's finding.

Individual blogs provide each student in a course with their own area to share thoughts and work with others in the course. Students are able to receive comments and feedback on their individual blog from others in the course. Course blogs allow users in a particular course to share thoughts and work in a common area where all the students in the same course can read and add comments. Group blogs allow groups of students in a course to collaboratively post thoughts and comments on each other's work while everyone else in the course can view and comment on the groups' entries.

Groups

Instructors can now create any number of groups at once. Students can randomly be assigned to groups, manually assigned by the instructor, or asked to sign-up for a group themselves. Students can create their own self-enrollment groups, although instructors have the option of modifying or restricting access to the student created groups.

Redesigned Grade Center (formerly the Grade Book)
Instructors can enter results, scores, percentages, and other forms of grading directly into the Grade Center spreadsheet. This inline editing process is similar to Microsoft Excel. Each grade entered into the Grade Center is automatically saved.

The Grade Center automatically records each grade's history. If an instructor or TA changes a grade, the grade history will show the new grade, the old grade(s), when the grade(s) was changes and who made the

changes. Instructors can create "Smart Views" that categorize students based on selected criteria. This is helpful for courses that have been combined as instructors are now able to view students by section. It also works well for instructors who use TA's and want to divide the management of student grades between those TA's. The Grade Center supports average grade and minimum/maximum grade calculations. Instructors are now able to drop the lowest score easily. Instructors have the ability to create and print grade reports.

Blackboard Technical Support
To speak with a support analyst, call toll free 1-855-836-3517 weekdays 8:00 am to midnight and anytime on the weekends. Delaware Tech Blackboard Support Chat is always available, 24x7, 365 days a year by visiting https://chat.perceptis.com/c/dtcc.

DELAWARE TECHNICAL COMMUNITY COLLEGE/UNIVERSITY OF DELAWARE ASSOCIATE IN ARTS DEGREE PROGRAM

Owens, Terry and Wilmington Campuses
The Delaware Technical Community College/ University of Delaware Associate in Arts Degree Program is a liberal arts program primarily for students interested in areas of study offered by the University of Delaware's Colleges of Arts and Sciences, Business and Economics, Education, Agriculture and Human Resources. The program consists of University courses taught by University faculty.

A student may earn a University of Delaware associate degree by completing 60 credit hours of instruction in his/her area of concentration. A bachelor's degree is awarded by the University of Delaware to a student who continues at the University, completing a minimum of 124 credits, including general University requirements, group and major requirements. (Minimum credits may be higher in certain majors.) Admissions decisions consider the student's academic record, Scholastic Aptitude Test scores, and recommendations from their high school. A student is offered admission and provided with an evaluation of total qualifications that indicate potential for success.

Financial aid is available to assist qualified students. Applicants must complete the College Scholarship Service Financial Aid Form. Application is made through the University of Delaware Admissions Office. Applications are available at Delaware Technical Community College, the University, or at any Delaware high school guidance office.

Please visit the Delaware Technical Community College or University of Delaware Web sites at www.udel.edu or www.dtcc.edu for more information.

DELAWARE TECHNICAL COMMUNITY COLLEGE ACCREDITATIONS AND CERTIFICATIONS

CAMPUS	TECHNOLOGY	AGENCY
Owens	Airframe Maintenance Technology	Federal Aviation Administration (FAA)
Owens	Architectural Engineering Technology	Engineering Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ETAC of ABET)
Owens	Automotive Technology	National Automotive Technicians Education Foundation (NATEF) for Automotive Service Excellence (ASE)
Owens	Business Accounting, General Business, Management, Marketing	Association of Collegiate Business Schools and Programs (ACBSP)
Owens	Civil Engineering Technology	Engineering Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ETAC of ABET).
Owens	Commercial Transportation (Tractor Trailor Driver Training)	Professional Truck Driver Institute, Inc.
Owens	Design Engineering Technology	Engineering Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ETAC of ABET).
Owens	Diagnostic Medical Sonography	Commission on Accreditation of Allied Health Education Programs (CAAHEP)
Owens	Early Childhood Education Early Care and Education (Birth to Second Grade)	Delaware Department of Education
Owens	Early Childhood Education Early Childhood Development	Delaware Department of Education
Owens	Education* Math Secondary Education	Delaware Department of Education
Owens	Education* Elementary Education Option	Delaware Department of Education
Owens	Education* Paraeducator	Delaware Department of Education
Owens	Human Services	Council for Standards in Human Service Education (CSHSE)
Owens	Medical Laboratory	National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
Owens	Nursing	Accreditation Commission for Education in Nursing
Owens	Occupational Therapist Assistant	Accreditation Council for Occupational Therapy Education (ACOTE)
Owens	Office Administration	Association of Collegiate

		Business Schools and Programs
Owens	Paralegal	American Bar Association Standing Committee on Paralegals Approval Commission
Owens	Physical Therapist Assistant	Commission on Accreditation in Physical Therapy Education (CAPTE)
Owens	Radiologic Technology	Joint Review Committee on Education in Radiologic Technology (JRCERT)
Owens	Refrigeration, Heating, & Air-Conditioning	Partnership for Heating, Ventilation, Air-Conditioning, Refrigeration Accreditation(PAHRA)
Owens	Respiratory Care	Committee on Accreditation of Respiratory Care (COARC)
Owens	Veterinary Technology	American Veterinary Medical Association
Stanton	Associate Degree Nursing	Accreditation Commission for Education in Nursing (ACEN)
Stanton	Culinary Arts	American Culinary Federation, Foundation Inc.'s Accrediting Commission
Stanton	Food Service Management	American Culinary Federation, Foundation Inc.'s Accrediting Commission
Stanton	Mechanical Engineering Technology	Engineering Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc.(ETAC of ABET)
Terry	Business Accounting, General Business, Hospitality Management, Management, Marketing	Association of Collegiate Business Schools and Programs (ACBSP)
Terry	Culinary Arts	American Culinary Federation Education Foundation
Terry	Early Childhood Education Early Care and Education (Birth to Second Grade)	Delaware Department of Education
Terry	Early Childhood Education Early Childhood Development	Delaware Department of Education
Terry	Education* Math Secondary Education	Delaware Department of Education
Terry	Education* Elementary Education Option	Delaware Department of Education
Terry	Education* Paraeducator	Delaware Department of Education
Terry	Human Services	Council for Standards in Human Services Education (CSHSE)
Terry	Associate Degree Nursing	Accreditation Commission for Education in Nursing (ACEN)
Terry	Paralegal	American Bar Association Standing Committee on Paralegals Approval

		Commission
Terry	Paramedic	Commission on Accreditation of Allied Health Education Programs (CAAHEP) Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP)
Terry	Practical Nursing	Accreditation Commission for Education in Nursing (ACEN)
Terry	Surgical Technology	Commission on Accreditation of Allied Health Education Programs (CAAHEP) Committee on American College of Surgeons (ACS) and Association of Surgical Technologist (AST)
Wilmington	Business Accounting, General Business, Management, Marketing, Hospitality Management	Association of Collegiate Business Schools and Programs (ACBSP)
Wilmington	Cardiovascular Sonography	Commission on Accreditation of Allied Health Education Programs (CAAHEP)
Wilmington	Dental Hygiene	American Dental Association, Commission on Dental Accreditation
(Terry/Owens Extension)	Dental Hygiene	American Dental Association, Commission on Dental Accreditation
Wilmington	Diagnostic Medical Sonography, General Concentration	Commission on Accreditation of Allied Health Education Programs (CAAHEP)
Wilmington	Human Services	Council for Standards in Human Service Education (CSHSE)
Wilmington	Early Childhood Education	Delaware Department of Education
Wilmington	Early Childhood Education: Early Care and Education (Birth to Second Grade)	Delaware Department of Education
Wilmington	Early Childhood Education: Early Childhood Development	Delaware Department of Education
Wilmington	Education* Math Secondary Education	Delaware Department of Education
Wilmington	Education* Elementary Education Option	Delaware Department of Education
Wilmington	Education* Paraeducator	Delaware Department of Education
Wilmington	Early Childhood Education, Child Development Center	National Association for the Education of Young Children (NAEYC)
Wilmington	Histotechnology	National Accrediting Agency for Clinical Laboratory

		Sciences (NAACLS)
Wilmington	Human Services	Council for Standards in Human Service Education (CSHSE)
Wilmington	Medical Assistant	Commission on Accreditation of Allied Health Education Programs (CAAHEP) Curriculum Review Board of American Association of Medical Assistants' Endowment (AAMAE)
Wilmington	Nuclear Medicine	Joint Review Committee on Education Programs in Nuclear Medicine Technology (JRCNMT)
Wilmington	Occupational Therapy Assistant	The Accreditation Council for Occupational Therapy Education of the American Occupational Therapy Association (ACOTE)
Wilmington	Physical Therapist Assistant	Commission on Accreditation in Physical Therapy Education (CAPTE)
Wilmington	Radiologic Technology	Joint Review Committee on Education in Radiologic Technology (JRCERT)
Wilmington	Respiratory Care	Committee on Accreditation of Respiratory Care (COARC)

* *Provisional approval is granted to institutions until a larger number of graduates are produced.*

Course Descriptions

Course Descriptions

This section includes a list of courses offered at the College. Not all courses are offered each semester, and not all courses are offered on all campuses. The College reserves the right to cancel any course in the semester schedule for which an insufficient number of students register.

ACC Accounting
ACE Academic Challenge English
ACM Academic Challenge Mathematics
ACR Air Conditioning & Refrigeration
AET Architectural Engineering
AGS Applied Agricultural
AID Interior Design
AMT Airframe Maintenance Technology
ASL American Sign Language
AUT Automotive
BAK Banking
BIO Biology
BUS Business Administration
CEN Computer Engineering
CET Civil Engineering
CHM Chemistry
CIS Computer Information Systems
CLT Cultural
CMT Construction Management
CNE Computer Network Engineering
COD Medical Coding
COM Communications
CPO Chemical Process Operator
CRJ Criminal Justice
CSA CISCO Academy
CSC Computing and Information Science
CSM Customer Service Management
CTS Commercial Transportation
CUL Culinary Arts
CVS Cardiovascular Sonography
CWE Cooperative Education
DAC Drug & Alcohol Counseling
DHY Dental Hygiene
DMS Diagnostic Medical Sonography
EBZ E-Business
ECE Early Childhood Education
ECH Echocardiography
ECO Economics
EDC Education
EDD Computer-Aided Engineering Drafting & Design
EDT Engineering Drafting
ELC Electronics/Electrical Engineering
ELM Electromechanical Engineering
EMT Emergency Medical Technician (Paramedic)
ENG English
ENT Entrepreneurship
ENV Environmental
ESL English as a Second Language
ESM Emergency Services Management
ETC Ed Tech Certificate Program
ETH Ethnic Studies
EXS Exercise Science
FET Fire Protection Engineering
FIN Finance
FSM Food Service Management
FSY Food Safety
GER Gerontology
GET Engineering (General)
HIM Health Information Management
HIS History
HIT Health Information
HLH Allied Health
HMS Human Services
HRI Hotel, Restaurant, & Institutional Management
HRM Human Resource Management
HTT Histotechnician
HVA HVAC Design Engineering
IET Industrial Engineering
IMT Industrial Maintenance
INT Sign Language Interpreting
ISY Information Security
LAS Laser & Optic Studies
MAT Mathematics
MEA Medical Assistant
MET Mechanical Engineering
MGT Management
MIS Management Information Systems
MKT Marketing
MLT Medical Laboratory
MTS Medical Transcription
NCJ Non-Curriculum Credit Courses Joint-Campus
NCN Non-Curriculum Credit Courses - Stanton
NCS Non-Curriculum Credit Courses - Owens
NCT Non-Curriculum Credit Courses - Terry
NCW Non-Curriculum Credit Courses - Wilmington
NMT Nuclear Medicine
NRG Energy
NUR Nursing
OAT Office Administration
OTA Occupational Therapy Assistant
PFS Perinatal Ultrasound
PHY Physics
POL Political Science
POS Poultry Science
PSY Psychology
PTA Physical Therapist Assistant
RAD Radiologic Technologist
RCT Respiratory Care Technician
RDG Reading
SGT Surgical Technology
SMT Safety Management
SOC Sociology
SPA Spanish
SSC Student Success Courses
SSS Student Services
VAS Vascular
VET Veterinary
VSC Visual Communication

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

CAMPUS KEY: T = Dover; O = Georgetown; S = Stanton; W = Wilmington

Program	Campus
Accounting	O,T,W
Advertising Design	T
Agribusiness Management	O,T,W
Airframe Maintenance Technology	O
Architectural Engineering Technology	O,T,S
Architectural Engineering: Interior Design	T
Automotive Technology	O,S
Biological Sciences	O,S
Biomedical Option	T
Biotechnology	O,S
Building Automation Systems Option	T
Business Administration Transfer Option	O,T,W
Cardiovascular Sonography	W
Chemical Process Operator	S
Chemistry	S
Chemistry Math Concentration	S
Civil Engineering Technology	O,S
Communications	O
Computer Aided Drafting/Design Technology	S
Computer Engineering Tcy Option	S
Computer Information Systems	O,T,W
Computer Network Engineering Technology	O,T,W
Computing and Information Science	W
Construction Management Technology	O,S,T
Criminal Justice	O,S,T
Culinary Arts	T,S
Dental Hygiene	W
Design Engineering (Mechanical)	O
Diagnostic Medical Sonography: Owens	O
Diagnostic Medical Sonography: Wilmington	W
Drug Alcohol Counseling	T,W
Early Childhood Development	O,T,W
Electrical and Computer Engineering Transfer Option	O,T,S
Electromechanical Engineering Technology	T
Electronics Engineering Tcy	O,T,S
Emergency Medical Technician Paramedic	T
Energy Management	O,T,S
Entrepreneurship	O,T,W
Environmental Technology Water Quality	O
Environmental Technology: Environmental Engineering Technology	O,S
Exercise Science	W
Fire Protection	S
Food Safety	O
Food Service Management	S
General Business	O,T,W
Health Information Management	W
Histotechnician	W
Homeland Security and Emergency Management	T
Hospitality Management	T,W
Human Services	O,T,W
Information Security	O,T,W
Instrumentation Option	S
Landscape and Ornamental Horticulture	O
Law Enforcement Option	O,T,S
Management	O,T,W

Marketing	O,T,W
Mechanical Engineering Technology	S
Medical Assistant	W
Medical Laboratory Technician	O
Multimedia	T
Nuclear Medicine	W
Nursing	O,T,S
Occupational Therapy Assistant	O,W
Office Administration	O
Operations Management	W
Paraeducator	O,T,W
Paralegal	O,T
Photo Imaging	T
Physical Therapist Assistant	O,W
Production Agriculture	O
Radiologic Technology	O,W
Refrigeration, Heating, & Air Conditioning	O
Renewable Energy Solar	O,T,S
Respiratory Care	O,W
Surgical Technology	T
Surveying and Geomatics Engineering Technology	O,S
Turf Management	O
Veterinary Technology	O
Web Development	O,T

Business

Accounting

A.A.S. Degree (O,T,W)

As a graduate of the Accounting Program at Delaware Tech, you will use your strong accounting skills along with communication, computation and interpersonal skills on the job every day. A degree from this program, which has earned national accreditation from the Association of Collegiate Business Schools and Programs (ACBSP), sends a clear signal to potential employers that you have completed a high quality business program that meets rigorous educational requirements established by the ACBSP. Your degree will open the door to many different career paths in accounting. Graduates are employed as general staff accountants for business and industry, and frequently enter the areas of auditing, tax accounting and cost accounting.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	140	Essentials of College Algebra	4
or			
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
ACC	101	Accounting I	4
ACC	112	Accounting II	4
ACC	211	Tax Accounting I	3
ACC	221	Cost Accounting I	3
ACC	231	Intermediate Accounting I	3
ACC	232	Intermediate Accounting II	3
BUS	203	Business Law	3
BUS	275	Portfolio/Experiential Lrning	3
MGT	212	Principles of Management	3
FIN	221	Money and Banking	3
or			
MIS	220	Management Information Systems	3
or			
ACC	162	Computerized Accounting	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BUS	101	Introduction to Business	3
CIS	107	Intro to Computers/Application	3
MAT	255	Business Statistics I	3
MKT	212	Principles of Marketing	3
CIS	112	Spreadsheet/Graphics Proc	3
or			
OAT	152	Excel Level I	3

Visual Communications

Advertising Design

A.A.S. Degree (T)

The Advertising Design Option of the Visual Communications program is a focused curriculum aimed at training new professional creative talent for the information age. Communicating visual information requires imagination, skill, and talent. While developing skills in key software for print and non-print communications, the program stresses the use of innovative, creative problem solving. As the information highway becomes more and more congested, good design and graphics will be needed to compete for the attention of a visually acute public. A professional in the visual communication industry would be involved in a range of projects from traditional print items such as brochures, publications and stationery to exhibits, signage, audio-visual presentations, and architectural graphics. Graduates of the program may enter careers as in-house designers for corporations, publishers, schools, retailers, and design firms. Many students work as independent, self-employed designers.

CORE COURSES

Courses			Credits
COM	111	Human Communications	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	150	Business Mathematics	3

PROGRAM/MAJOR COURSES

Courses			Credits
VSC	109	Drawing I	4
VSC	115	Intro To Design	3
VSC	125	Color And Composition	3
VSC	133	History of Graphic Design	2
VSC	155	Typography And Layout	3
VSC	160	Computer Graphics I	4
VSC	161	Computer Graphics II	4
VSC	165	Photography I	4
VSC	175	Print Production Processes	2
VSC	251	Portfolio Workshop	4
VSC	262	Computer Graphics III	4
VSC	270	Project Management	2
VSC	271	Illustration	3
VSC	275	Self Promotion	2
VSC	131	Art History I	3
or			
VSC	132	Art History II	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BUS	101	Introduction to Business	3
POL	111	Political Science	3
or			
PSY	121	General Psychology	3
Select 1 course(s) from:			
VSC	135	Non-Western Art Survey	3
VSC	166	Photography II	3
VSC	181	CorelDraw	4
VSC	185	Advanced Drawing	3
VSC	186	Advanced Painting	3
VSC	187	Advanced Illustration	3
VSC	190	Intro To Videography	3
VSC	260	Multimedia Authoring	3
VSC	265	Motion Graphics	3
VSC	267	Color Photography	4
VSC	268	Photo Illustration	3
VSC	281	Project Elective	3

Applied Agriculture

Agribusiness Management

A.A.S. Degree (O,T,W)

Agriculture plays an extensive and essential part in today's economy. Individuals seeking a career in agriculture and its related occupations will discover the need for a formal education is now greater than ever. The investment in a modern agricultural enterprise is too costly to permit poor planning and preparation. Sound principles of production, management, and marketing are vital to the successful undertaking of an agricultural business. A broad spectrum of agriculture-related careers extends beyond the farm. Employers look to two-year technical colleges for qualified employees, and entrepreneurs look to the associate degree as a means to prepare them for ownership of an agribusiness.

Agribusiness Management prepares students for positions related to the agriculture industry by developing their knowledge of agriculture, business and economics. This program will enable graduates to obtain positions with large corporations, small business or government agencies. Those who desire to be self-employed may choose to own or operate a farm business. Academics combined with real world experience will prepare students for a variety of employment opportunities.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	150	Business Mathematics	3
or			
MAT	125	Math for the Trades	4
Select 2 course(s) from:			
POL	111	Political Science	3
PSY	100	Human Relations	3
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
AGS	102	Agricultural Science	3
AGS	104	Intro to Agribusiness Managemt	3
AGS	209	Farm Records & Accounts	3
AGS	212	Intro to Agribusiness Marketng	3
AGS	215	Agriculture Leadership	3
AGS	225	Agriculture Seminar	3
AGS	226	Agribusiness Cooperative	3
Select 3 course(s) from:			
AGS	101	Soil Science	3
AGS	105	Prin of Plant Growth	3
AGS	240	Hydroponics Production	3
AGS	245	Turf Management	3
AGS	250	Greenhouse Crop Production	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BUS	101	Introduction to Business	3
CIS	107	Intro to Computers/Application	3
ECO	111	Macroeconomics	3
MGT	212	Principles of Management	3
OAT	152	Excel Level I	3
Select 1 course(s) from:			
BIO	140	General Biology	4
BIO	150	Biology I	4
BIO	151	Biology II	4
SCI	223	Applied Ecology	3

Airframe Maintenance Technology

Airframe Maintenance Technology

A.A.S. Degree (O)

The Airframe Maintenance Technology associate degree program prepares graduates for entry-level positions as airframe maintenance technicians. Graduates will acquire knowledge and skills needed in the fabrication, inspection, maintenance, repair, and testing of aircraft. Graduates will possess the training qualifications and be capable and competent to successfully pass the Federal Aviation Administration airframe mechanic certification examinations. Academically ready students can apply to the program following the guidelines of each location's wait-list process. Interested applicants should review the information provided here and contact their program advisor for program requirements.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	125	Math for the Trades	4
PSY	100	Human Relations	3

PROGRAM/MAJOR COURSES

Courses			Credits
AMT	110	Airframe Maintenance General	12
AMT	120	Airframe Maintenance - AF I	11
AMT	210	Airframe Maintenance - AF II	12
AMT	220	Airframe Maintenance - AF III	11

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
ELC	122	Electronic Devices/Circuits I	3
PSY	121	General Psychology	3
ENG	124	Oral Communications	3
or			
ENG	131	Honors Oral Communication	3

Architectural Engineering

Architectural Engineering Technology

A.A.S. Degree (O,T,S)

Architectural Engineering Technology is an intensive mixture of architectural, civil, mechanical, and electrical principles as they relate to building design and construction. The curriculum provides a broad base instructional program suitable to numerous aspects of the building industry. Graduates of the Architectural Engineering Technology program may work as engineering technicians in offices of architects; mechanical, electrical, structural, or civil consulting engineering firms; contractors and developers; municipal, state and federal building regulating agencies; facilities/plant management offices for private industry; and building material suppliers and fabricators. Graduates of this program are prepared for immediate productivity in the profession.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	181	Algebra and Trigonometry I	4
or			
MAT	185	Precalculus	4
Select 2 course(s) from:			
CLT	110	Cross-Cultural Immersion	3
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
HIS	111	U. S. History: Pre-Civil War	3
HIS	112	U. S. History: Post-Civil War	3
POL	111	Political Science	3
PSY	121	General Psychology	3
SOC	111	Sociology	3
VSC	131	Art History I	3
VSC	132	Art History II	3

PROGRAM/MAJOR COURSES

Courses			Credits
AET	123	Arch Drafting/Design I	4
AET	125	Arch Drafting/Design II	4
AET	135	Construction Materials/Methods	3
AET	232	Contracts/Specifications	3
AET	234	Cost Estimating/Planning	3
AET	236	Building Service Systems	3
AET	250	Arch Drafting/Design III	4
AET	264	Architectural CAD Applications	3
AET	270	Arch Drafting/Design IV	4
AET	275	Arch Dsgn:Foundation Studies I	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
EDD	171	Intro to CAD Using AutoCAD	3
MET	132	Statics	3
MET	242	Strength of Materials	3
MAT	182	Algebra and Trigonometry II	4
or			
MAT	281	Calculus I	4
PHY	205	General Physics I	4
or			
PHY	281	Physics I with Calculus	4

Architectural Engineering

Architectural Engineering: Interior Design

A.A.S. Degree (T)

Interior design is a highly-skilled profession which encompasses the total design picture. There is a big difference between an interior decorator and a professional interior designer. Interior designers must consider the structure and utilities of a building, client needs and cost effectiveness, as well as aesthetics. It is the designer's job to develop creative solutions to improve the human environment and maximize the function of space. The interior designer prepares technical drawings and designs development drawings to present a successful solution to the client. In addition to residential work, the field of interior design includes such projects as schools, hotels, hospitals, restaurants, theaters, shopping centers, and many more commercial areas. Although the program places a high emphasis on design, students are

exposed to all aspects of industry. The program offers students the opportunity to prepare for careers in interior design as designers, draftsmen, color consultants, renderers, specifiers to work in interior design firms, architectural firms, retail stores, and hotel chains, to name a few.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	155	Mathematics of Finance	3
Select 2 course(s) from:			
CLT	110	Cross-Cultural Immersion	3
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
HIS	111	U. S. History: Pre-Civil War	3
HIS	112	U. S. History: Post-Civil War	3
POL	111	Political Science	3
PSY	121	General Psychology	3
SOC	111	Sociology	3
VSC	131	Art History I	3
VSC	132	Art History II	3

PROGRAM/MAJOR COURSES

Courses			Credits
AID	145	Intr Styles Materials/Accents	4
AID	151	Interior Detailing	4
AID	170	Presentation Drawing/Rendering	4
AID	224	Cost Estimatg for Interior Des	3
AID	241	Residential Design Studio	5
AID	242	Commercial Design Studio	5
AID	244	Hist of Architectural Int Desg	3
AID	265	Profnl Practice of Intr Design	3
AID	274	Interior Systems	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
AET	123	Arch Drafting/Design I	4
AET	125	Arch Drafting/Design II	4
AET	135	Construction Materials/Methods	3
AET	264	Architectural CAD Applications	3
EDD	171	Intro to CAD Using AutoCAD	3

Automotive Technology

Automotive Technology

A.A.S. Degree (O,S)

The Automotive Technology Program allows students to select a practical hands-on Diploma program or a more rigorous Associate Degree option.

Graduates of the Associate Degree option will be able to perform a variety of preventive maintenance and repair functions on automobiles. Through systematic classroom instruction, completion of required laboratories and structured, mandatory internships, graduates will be able to use printed and electronic information, tools and instruments to diagnose faults and carry out necessary repairs and maintenance procedures.

Graduates of the Diploma program will be able to enter the automotive service industry as entry level technicians. Through the completion of the required pre-tech courses, students completing the Diploma program may transfer their earned credits toward the Associate Degree program. Academically ready students can apply to the program following the guidelines of each location's wait-list process. Interested applicants should review the information provided here and contact their program advisor for program requirements.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	120	Math for Behavioral Sciences	3
PSY	100	Human Relations	3

PROGRAM/MAJOR COURSES

Courses			Credits
AUT	114	Intro to Automotive Technology	3
AUT	116	Automotive Electrical	5
AUT	118	Auto Steering & Suspen/Align	3
AUT	119	Automotive Brake Systems	3
AUT	122	Auto Air Conditioning/Heating	3
AUT	123	Work Experience I	3
AUT	202	Automotive Engine Repair	3
AUT	203	Automotive Engine Performance	6
AUT	205	Manual Transmissions/Transaxle	3
AUT	208	Automatic Transmissions	3
AUT	223	Work Experience II	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
MET	123	Modern MFG Techniques	3
MGT	212	Principles of Management	3
SOC	103	Sustainability and Society	3
ENT	101	Intro to Entrepreneurship	3
or			
BUS	101	Introduction to Business	3

Biotechnology

Biological Sciences

A.A.S. Degree (O,S)

The Biotechnology: Biological Sciences program is designed to meet the needs of students who intend to pursue a bachelor's degree in biotechnology or biological sciences. The curriculum provides a theoretical and practical education in various aspects of biology and chemistry that can be applied to diverse careers in the medical, environmental,industrial, and agricultural fields. Standard techniques used in science laboratories are covered, and special emphasis is placed on science and math instruction to prepare students for upper-level course work.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	281	Calculus I	4
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
BIO	150	Biology I	4
BIO	151	Biology II	4
BIO	250	Principles of Microbiology	4
BIT	260	Biotechnology I	4
BIT	261	Biotechnology II	4
CHM	240	Organic Chemistry I	4
CHM	241	Organic Chemistry II	4
CHM	250	Analytical Chemistry I	5

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CHM	150	Chemical Principles I	5
CHM	151	Chemical Principles II	5
CIS	107	Intro to Computers/Application	3
PHY	205	General Physics I	4
or			
PHY	281	Physics I with Calculus	4

Electronic Engineering Technology

Biomedical Option

A.A.S. Degree (T)

This degree program takes the electronics program and provides course work beyond the normal theories and applications of the electronics technology field. Courses from the computer and electromechanical engineering technologies and the nursing program become part of the curriculum requirements. Internship work experience in electronics and in a hospital/medical environment is a significant part of the program. A student who is training to be a biomedical technician must have a high level of personal commitment, ethical conduct, and a knowledge of interpersonal relationships in order to enable him or her to interact with medical staff within the hospital/medical environment. Courses are transferable to four-year degree programs in engineering technology and related programs. Students are advised to contact the department for details.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	181	Algebra and Trigonometry I	4
Select 2 course(s) from:			
COM	111	Human Communications	3
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
HIS	111	U. S. History: Pre-Civil War	3
HIS	112	U. S. History: Post-Civil War	3
POL	111	Political Science	3
PSY	100	Human Relations	3
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
CEN	100	Intro Elec & Computer Eng Tech	3
CEN	126	Industrial Networks	3
ELC	125	Electrical Circuits I	4
ELC	126	Analog Electronics I	3
ELC	127	Digital Electronics	4
ELC	225	Electrical Circuits II	4
ELC	226	Analog Electronics II	3
ELC	260	Biomedical Instrumentation	4
ELC	261	Biomedical Instrumentation II	4
ELC	291	Biomed Electronics Internship	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	110	Essentls-Anatomy & Physiology	4
CHM	110	General Chemistry	4
MAT	182	Algebra and Trigonometry II	4
PHY	111	Conceptual Physics	4

Biotechnology

Biotechnology

A.A.S. Degree (O,S)

Biotechnology associate degree graduates are prepared for entry-level employment in a variety of

laboratory settings. They analyze and interpret data using their knowledge of biological methods, laboratory techniques, and modern instrumentation. Students acquire a theoretical and practical education in various aspects of biology and chemistry that can be applied to diverse careers in the medical, environmental, industrial, and agricultural fields.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
ENG	122	Technical Writing-Comm	3
MAT	153	College Math and Statistics	4
or			
MAT	181	Algebra and Trigonometry I	4
Select 2 course(s) from:			
CLT	110	Cross-Cultural Immersion	3
COM	111	Human Communications	3
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
POL	111	Political Science	3
PSY	121	General Psychology	3
PSY	123	Industrial Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
BIO	150	Biology I	4
BIO	151	Biology II	4
BIO	250	Principles of Microbiology	4
BIT	260	Biotechnology I	4
BIT	261	Biotechnology II	4
CHM	111	Intro to Organic & Biochemstry	4
CHM	250	Analytical Chemistry I	5
CHM	251	Analytical Chemistry II	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CHM	150	Chemical Principles I	5
CHM	151	Chemical Principles II	5
CIS	107	Intro to Computers/Application	3

Energy

Building Automation Systems Option

A.A.S. Degree (T)

The Building Automation Systems (BAS) Program leads to an Associate in Applied Science (A.A.S.) degree in Energy Management with a Building Automations System option. BAS technicians conduct the hands-on operation of a building's computer networking of electronic devices designed to monitor and control the mechanical, security, fire and flood safety, HVAC and humidity control, and ventilation systems. The program incorporates electronics, energy, and HVAC courses designed to train an entry level controls technician.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	140	Essentials of College Algebra	4
SOC	103	Sustainability and Society	3
PSY	100	Human Relations	3
or			
ECO	122	Microeconomics	3

PROGRAM/MAJOR COURSES

Courses			Credits
ACR	121	HVAC Energy Systems	3
ACR	222	Commercial HVAC Energy Analysi	2
NRG	101	Intro to Energy Management	3
NRG	123	Fundamentals of Control System	3
NRG	124	Energy Efficient Methods	3
NRG	140	Commercial Building Systems	3
NRG	209	BAS Co-operative Education	3
NRG	223	Energy Control Strategies	3
NRG	233	Lighting Fundmt & Applications	4
NRG	245	Building Systems Integration	3
NRG	253	BAS Capstone	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CEN	126	Industrial Networks	3
EDD	131	Engineering Graphics/CAD	3
ELM	130	Industrial Electricity	3
OAT	152	Excel Level I	3
PHY	111	Conceptual Physics	4

Business

Business Administration Transfer Option

A.A.S. Degree (O,T,W)

The Business Administration Transfer option is designed to enable graduates to transfer to four year business programs accredited by the Association to Advance Collegiate Schools of Business (AACSB). The option combines studies in non-business and business courses that will best match students' individual education goals. This option will give graduates the flexibility to transfer to institutions of higher learning.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
ENG	124	Oral Communications	3
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
ACC	101	Accounting I	4
ACC	112	Accounting II	4
ACC	221	Cost Accounting I	3
BUS	101	Introduction to Business	3
MAT	255	Business Statistics I	3
MAT	256	Business Statistics II	3
MAT	261	Business Calculus I	4
MGT	212	Principles of Management	3
MKT	212	Principles of Marketing	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
PSY	121	General Psychology	3
or			
SOC	111	Sociology	3
BIO	100	Medical Terminology	3
or			
BIO	110	Essentls-Anatomy & Physiology	4
or			
BIO	140	General Biology	4
or			
CHM	110	General Chemistry	4
or			
ENV	190	Intro to Envtl Science & Tech	3
or			
PHY	111	Conceptual Physics	4
Select 2 course(s) from:			
ENG	128	Black American Literature	3
HIS	111	U. S. History: Pre-Civil War	3
HIS	112	U. S. History: Post-Civil War	3
SPA	136	Spanish Communication I	4
SPA	137	Spanish Communication II	4

Allied Health

Cardiovascular Sonography

A.A.S. Degree (W)

Sonography is the art and science of employing high frequency sound waves to image organs, vessels, masses, and fluid accumulations within the body. The Cardiovascular Sonography program at the Wilmington Campus provides comprehensive educational experiences that enable qualified students to acquire the knowledge, skills, and behaviors necessary to be eligible for licensure and employment as entry level diagnostic cardiac sonographers and vascular technologists. The cardiovascular program focuses on procedures that help to diagnose abnormalities related to heart and vascular diseases. The cardiovascular program is accredited by the Joint Review Committee on Education in Diagnostic Medical Sonography (JRCDMS) 6021 University Blvd., Suite 500, Ellicott City, MD 21043, (443) 973-3251 of the Commission on Accreditation of Allied Health Education Programs (CAAHEP) 1361 Part Street, Clearwater, FL 33756, (727)210-2350. Graduates may take the national certification in cardiac and vascular sonography. Courses are offered on campus and a variety of clinical affiliates. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
PSY	121	General Psychology	3
SOC	213	Ethical Issues in Health Care	3
MAT	153	College Math and Statistics	4
or			
MAT	181	Algebra and Trigonometry I	4

PROGRAM/MAJOR COURSES

Courses			Credits
CVS	109	Intro to Clin Internship II	1
CVS	201	Clinical Internship I	3
CVS	202	Clinical Internship II	7
CVS	203	Clinical Internship III	7
CVS	210	Scanning Applications	1
DMS	106	Intro-Patient Care/Sonography	3
DMS	108	Intro to Clin Internship I	1
DMS	110	Acoustical Physics	3
DMS	230	Special Topics	2
ECH	111	Echocardiography Techniques I	3
ECH	112	Echocardiography Techniques II	3
ECH	213	Echocardiography Technique III	3
HLH	215	Cardiovascular Monitoring	2
VAS	111	Vascular Techniques I	3
VAS	112	Vascular Techniques II	3
VAS	213	Vascular Techniques III	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	100	Medical Terminology	3
BIO	120	Anatomy and Physiology I	5
BIO	121	Anatomy and Physiology II	5
BIO	130	Disease Proc/Pathophysiology	3

CHM 110	General Chemistry	4
PHY 111	Conceptual Physics	4

Chemical Process Operator

Chemical Process Operator

A.A.S. Degree (S)

The Chemical Process Operator curriculum prepares students for employment in industrial plants in the chemical, petroleum, polymer and pharmaceutical industry. The chemical industry throughout the state has a great need for trained chemical operators to adjust and optimize conditions for the production of large quantities of products in local chemical plants and pilot plants. Graduates are readily employed by these local plants at competitive salaries. The program provides a practical education in the various aspects of plant operations such as hands-on training in process operations and control, regulatory compliance, and preventive maintenance skills. Laboratory facilities include not only standard lab equipment, but also modern instrumentation in pilot plant technology and computer simulations.

CORE COURSES

Courses		Credits
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 153	College Math and Statistics	4
Select 2 course(s) from:		
ECO 111	Macroeconomics	3
POL 111	Political Science	3
PSY 121	General Psychology	3
SOC 111	Sociology	3

PROGRAM/MAJOR COURSES

Courses		Credits
CPO 100	Intro to Chem Proc Oper Tech	3
CPO 125	Safety, Health & Environment	3
CPO 135	Chem Proc Tech-Equipment	3
CPO 151	Chem Proc Tech I-Systems	4
CPO 240	Quality	3
CPO 252	Chem Proc Tech II-Operations	4
CPO 253	Process Troubleshooting	4
CPO 260	Internship	4

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
CHM 110	General Chemistry	4
CIS 107	Intro to Computers/Application	3
ELC 101	Intro to Instrumentation	3
ELC 270	Process Instrumentation I	4
PHY 111	Conceptual Physics	4

Chemistry

Chemistry

A.A.S. Degree (S)

The Chemistry associate degree will give you the skills needed to work as a technician in a laboratory in chemical, pharmaceutical, and related industries. Chemical and related industries employ scientists at all degree levels in research, production, and quality control laboratories, and in customer service and related areas. The Delaware Tech Chemistry program teaches you to integrate scientific knowledge, laboratory skills, and critical thinking to solve chemical problems.

CORE COURSES

Courses		Credits
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 181	Algebra and Trigonometry I	4
Select 2 course(s) from:		
CLT 110	Cross-Cultural Immersion	3
COM 111	Human Communications	3
ECO 111	Macroeconomics	3
ECO 122	Microeconomics	3
POL 111	Political Science	3
PSY 121	General Psychology	3
PSY 123	Industrial Psychology	3
SOC 111	Sociology	3

PROGRAM/MAJOR COURSES

Courses		Credits
CHM 111	Intro to Organic & Biochemstry	4
CHM 150	Chemical Principles I	5
CHM 151	Chemical Principles II	5
CHM 240	Organic Chemistry I	4
CHM 241	Organic Chemistry II	4
CHM 245	Intro to Industrial Chemistry	4
CHM 250	Analytical Chemistry I	5
CHM 251	Analytical Chemistry II	4

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
BIO 150	Biology I	4
CIS 107	Intro to Computers/Application	3
CPO 106	Statistical Procs Cntrl Ovrvw	1
CPO 240	Quality	3
PHY 205	General Physics I	4

Chemistry

Chemistry Math Concentration

A.A.S. Degree (S)

The Chemistry, Math Concentration Option is equivalent to the first two years of a Baccalaureate

program in Chemistry. Connected Degree agreements with the University of Delaware and Delaware State University create a seamless path between Delaware Tech and senior institutions.

Knowledge of chemistry is critical in areas such as biology, chemical engineering, dentistry, forensic science, materials science, medicine, and pharmacy.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	281	Calculus I	4
PSY	121	General Psychology	3
SOC	111	Sociology	3
ENG	122	Technical Writing-Comm	3
or			
ENG	130	Honors Tech. Writing & Comm	3

PROGRAM/MAJOR COURSES

Courses			Credits
BIO	150	Biology I	4
CHM	150	Chemical Principles I	5
CHM	151	Chemical Principles II	5
CHM	240	Organic Chemistry I	4
CHM	241	Organic Chemistry II	4
CHM	250	Analytical Chemistry I	5
CHM	251	Analytical Chemistry II	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
SCI	130	Introduction to Research	2
PHY	205	General Physics I	4
or			
PHY	281	Physics I with Calculus	4
PHY	206	General Physics II	4
or			
PHY	282	Physics II with Calculus	4
MAT	282	Calculus II	4
or			
ECO	111	Macroeconomics	3
or			
ECO	122	Microeconomics	3

Civil Engineering Technology

Civil Engineering Technology

A.A.S. Degree (O,S)

Civil Engineering Technology is one of the broadest fields in the overall practice of engineering because its work is coordinated with so many other areas of engineering. The curriculum provides a broad base instructional program suitable to many aspects of the construction industry. The employment opportunities are extensive, varying and offer graduates numerous challenges in a growing technological society.

The program emphasizes practical applications in the areas of site development; route surveying & design; topographic drafting; hydraulics/hydrology; the selection, specification and testing of soils, concrete, asphalt, and other construction materials for the construction industry. The use of computers for CAD, data acquisition and analysis is integrated throughout the program preparing graduates for immediate productivity in the profession.

Graduates of the Civil Engineering Technology program may work as engineering technicians in offices of civil/surveying/structural/consulting engineering firms; local, state, and federal departments of natural resources; transportation/highway departments; material testing laboratories; and flood control and soil conservation agencies.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	181	Algebra and Trigonometry I	4
or			
MAT	281	Calculus I	4
Select 2 course(s) from:			
CLT	110	Cross-Cultural Immersion	3
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
HIS	111	U. S. History: Pre-Civil War	3
HIS	112	U. S. History: Post-Civil War	3
POL	111	Political Science	3
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
CET	125	Civil & Envl Drafting & Design	4
CET	135	Engineering Materials	3
CET	144	Surveying Principles	4
CET	225	Civil CAD Applications	3
CET	236	Soils	3
CET	240	Hydraulics and Hydrology	4
CET	244	Principles of Site Development	4
CET	247	Route Surveying and Design	3
MET	132	Statics	3
or			
CET	258	Statics with Calculus	3
MET	242	Strength of Materials	3
or			
CET	270	Solid Mechanics with Calculus	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
AET	234	Cost Estimating/Planning	3
EDD	171	Intro to CAD Using AutoCAD	3
GIS	101	Introduction to GIS	3
PHY	205	General Physics I	4
or			
PHY	281	Physics I with Calculus	4
MAT	182	Algebra and Trigonometry II	4
or			
MAT	185	Precalculus	4
or			
MAT	282	Calculus II	4

Communications Technology

Communications

A.A.S. Degree (O)

The Communications program provides essential background for students preparing for careers in the print or broadcasting media. Students learn how to write news articles for print and broadcast. They learn how to operate industry standard equipment and software. Instruction is also given in copy writing and in selling advertisements for different types of media. The program emphasizes hands-on experience with students participating in the student-produced website "The Wire" and serving an internship prior to graduation.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	120	Math for Behavioral Sciences	3
POL	111	Political Science	3
PSY	121	General Psychology	3

PROGRAM/MAJOR COURSES

Courses			Credits
COM	110	Intro. to Video Production	3
COM	140	Newswriting I	3
COM	150	Intro to Electronic Media	3
COM	240	Mass Media Law	3
COM	242	Newswriting II	3
COM	250	Photography	4
COM	251	Layout and Design	3
COM	293	Internship with Seminar	5
Select 2 course(s) from:			
COM	142	Radio Production	3
COM	152	Podcasting	3
COM	160	Intro to Public Relations	3
COM	210	Advanced Video Production	3
COM	246	Introduction to Film	4
COM	252	Advanced Photography	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
HIS	111	U. S. History: Pre-Civil War	3
MKT	212	Principles of Marketing	3
OAT	242	Desktop Publishing	4
ENG	129	Creative Writing	3
or			
ENG	124	Oral Communications	3

Computer Aided Drafting/Design Technology

Computer Aided Drafting/Design Technology

A.A.S. Degree (S)

Computer-Aided Engineering Drafting & Design Technology is a program which prepares students for industry by enhancing their computer-aided drafting (CAD) and design skills. The employment opportunities are extensive and varying and offer students numerous challenges in a growing technological society.

Graduates of the program may work as CAD technicians in offices of mechanical, electrical, architectural, structural consulting engineering offices; industrial piping; chemical/oil refineries; and municipal, state, and federal agencies. Graduates of this program are prepared for immediate productivity in the profession.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	181	Algebra and Trigonometry I	4
and			
MAT	182	Algebra and Trigonometry II	4
or			
MAT	185	Precalculus	4
or			
MAT	281	Calculus I	4
Select 2 course(s) from:			
CLT	110	Cross-Cultural Immersion	3
POL	111	Political Science	3
PSY	121	General Psychology	3
SOC	111	Sociology	3
ECO	111	Macroeconomics	3
or			
ECO	122	Microeconomics	3
HIS	111	U. S. History: Pre-Civil War	3
or			
HIS	112	U. S. History: Post-Civil War	3

PROGRAM/MAJOR COURSES

Courses			Credits
EDD	141	Engr Drafting & Design I	4
EDD	142	Engr Drafting & Design II	3
EDD	161	Intro - CAD using MicroStation	3
EDD	171	Intro to CAD Using AutoCAD	3
EDD	233	Engr Drafting and Design III	3
EDD	234	Eng. Drafting - Piping	3
EDD	246	Eng. Drafting - Structural	3
EDD	249	Engineering Design Process	3
EDD	271	Advanced CAD	3
EDD	272	Solid Modeling	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
AET	236	Building Service Systems	3
MET	115	Intro Mechanical Engr Tech	3
MET	123	Modern MFG Techniques	3
PHY	205	General Physics I	4

Electronic Engineering Technology

Computer Engineering Tcy Option

A.A.S. Degree (S)

The Computer Engineering Technology Option combines the hardware and software principles a technician encounters working with microcomputers. Specialized courses cover the fundamentals of electrical and electronic circuit theory as well as device operation and computer circuits. Students will acquire skills in basic PC installation and routine maintenance including troubleshooting and repair of microcomputer equipment and peripherals. Advanced skills in networking and security are also covered. An introduction to software through computer languages, such as C, C++,and assembly language are presented. Graduates can pursue career opportunities as computer technician, field service engineer, customer service representative or computer network technician. The Computer Engineering Technology Option is a path through the Electronics Engineering Technology program which is accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	181	Algebra and Trigonometry I	4
MAT	182	Algebra and Trigonometry II	4
Select 2 course(s) from:			
COM	111	Human Communications	3
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
POL	111	Political Science	3
PSY	100	Human Relations	3
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
ELC	125	Electrical Circuits I	4
ELC	126	Analog Electronics I	3
ELC	127	Digital Electronics	4
ELC	205	Computer Networks and System I	4
ELC	206	Computer Networks & Systems II	3
ELC	225	Electrical Circuits II	4
ELC	226	Analog Electronics II	3
ELC	227	Microcontroller Fundamentals	3
ELC	228	Microcontroller Applications	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CEN	100	Intro Elec & Computer Eng Tech	3
CEN	150	Computer Assembly/Maint	4
CEN	180	C/C++ Language Intro	4
PHY	205	General Physics I	4

Computer Information Systems

Computer Information Systems

A.A.S. Degree (O,T,W)

The Computer Information Systems prepares students for careers in applied programming and other computer-related fields. Computer concentrations are available leading to Associate in Applied Science degrees, diplomas, and certificates. The following Options are available:

Associate Degree in Computer Information Systems
Associate Degree in Microcomputers and Networking
Diploma in Microcomputer Studies
Certificates in Microcomputers, Network, and Web Developer

These Options prepare students for computer-related careers in businesses that use hardware ranging from microcomputers to large mainframe computers. Students are also taught to use the wide variety of software found in businesses including microcomputer networks. Each curriculum consists of a core of courses in programming, software applications, systems analysis, and related accounting and mathematics courses. All core courses make extensive use of computers.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
CIS	120	Intro to Programming	4
CIS	141	Operating Systems I	3
CIS	150	Intro to Objct-Orntd Prgrmmng	3
CIS	199	Data Comms & Networking	3
CIS	209	Visual Programming	3
CIS	211	Data Structures	4
CIS	238	Database Design & Programming	4
CIS	240	Systems Analysis & Design	3
CIS	282	Topics in Programming Language	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CNE	180	Computer Assmbly & Maintenance	4
ISY	111	Ethics & the Information Age	2
ISY	143	Intro to Information Security	3
ISY	150	Introductory Scripting	4
WEB	160	Internet/Web Construction	3

Computer Network Engineering Technology

Computer Network Engineering Technology

A.A.S. Degree (O,T,W)

The Computer Network Engineering program prepares students for careers in the field of networking and data communications. The curriculum, which consists of courses in computing and electronics, is designed to develop students' skills in installing, operating, and trouble-shooting computer networks. An introduction to computer languages, including assembly language, C++, and Visual systems is included. The electronics courses enable students to design and trouble-shoot the physical layer of the network. Graduates of this program will find jobs as network technicians, network administrators, and installers.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
CIS	120	Intro to Programming	4
CIS	141	Operating Systems I	3
CIS	240	Systems Analysis & Design	3
CNE	180	Computer Assmbly & Maintenance	4
CNE	191	Router Configuration	3
CNE	192	Network Administration	4
CNE	215	Enterprise Server Admin	4
CNE	216	Open Source Server Admin	3
CNE	280	Advanced Networking Topics	3
CNE	284	Cloud Computing	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
ISY	111	Ethics & the Information Age	2
ISY	150	Introductory Scripting	4
ISY	250	Network Def & Countermeasures	3
MAT	253	Discrete Math	3
PHY	111	Conceptual Physics	4

Computing and Information Science

Computing and Information Science

A.A.S. Degree (W)

Employment demand for graduates with high level computing and information technology skills is projected to continue to increase over the next decade. The Computing and Information Science program provides students with the skills necessary to design computing and information technology solutions so that they are prepared to be successful upon transfer to a bachelor's degree program. Students who wish to continue their education may do so through connected degree programs with local universities, including the University of Delaware and Delaware State University.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
HIS	111	U. S. History: Pre-Civil War	3
MAT	181	Algebra and Trigonometry I	4
or			
MAT	185	Precalculus	4

Select 1 course(s) from:

ECO	111	Macroeconomics	3
POL	111	Political Science	3
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
CIS	130	Computer Organization	3
CIS	211	Data Structures	4
CSC	114	Computer Science I	4
CSC	164	Computer Science II	4
CSC	214	Computer Science III	4
CSC	264	Applied Computer Capstone	4
MAT	263	Principles of Discrete Math	4
MAT	281	Calculus I	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
ECO	122	Microeconomics	3
or			
ENG	124	Oral Communications	3
PHY	205	General Physics I	4
or			
PHY	281	Physics I with Calculus	4
MAT	182	Algebra and Trigonometry II	4
or			
MAT	282	Calculus II	4
HIS	112	U. S. History: Post-Civil War	3
or			
SPA	136	Spanish Communication I	4

Construction Management Technology

Construction Management Technology

A.A.S. Degree (O,S,T)

The Construction Management program prepares individuals to work in the office/business end of a construction firm. Students are required to take a core of construction courses and business courses. The student chooses several elective courses to broaden his/her background in a specialized area. Graduates from the program will be prepared to qualify for paraprofessional employment in the construction industry. Career positions include engineering aide, materials and job estimator, assistant construction supervisor/project manager, specification writer, material salesperson, building inspector, and office manager. Graduates of this program are prepared for immediate productivity in the profession.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	181	Algebra and Trigonometry I	4
or			
MAT	281	Calculus I	4

Select 2 course(s) from:

CLT	110	Cross-Cultural Immersion	3
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
HIS	111	U. S. History: Pre-Civil War	3
HIS	112	U. S. History: Post-Civil War	3
POL	111	Political Science	3
PSY	121	General Psychology	3
SOC	111	Sociology	3
VSC	131	Art History I	3
VSC	132	Art History II	3

PROGRAM/MAJOR COURSES

Courses			Credits
CET	125	Civil & Envl Drafting & Design	4
CET	144	Surveying Principles	4
CMT	111	Construction Print Reading	3
CMT	224	OSHA Constr Industry Training	3
CMT	234	Cost Estimating/Planning	3
CMT	235	Adv Cost Estimating/Planning	3
CMT	242	Constr Project Management I	3
CMT	243	Co-op Work Experience	3
CMT	244	Constr Project Management II	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
ACC	101	Accounting I	4
AET	135	Construction Materials/Methods	3
AET	232	Contracts/Specifications	3
AET	236	Building Service Systems	3
AET	264	Architectural CAD Applications	3
NRG	101	Intro to Energy Management	3
MAT	182	Algebra and Trigonometry II	4
or			
PHY	205	General Physics I	4

Criminal Justice

Criminal Justice

A.A.S. Degree (O,S,T)

The Criminal Justice program prepares students for positions in local, state, and federal criminal justice agencies as well as private agencies. Career areas available to graduates are law enforcement and related services, corrections, counseling, probation, and parole. This program provides students the foundation for transfer to public and private four-year in-state colleges and universities to complete requirements for a bachelor's degree.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
PSY	121	General Psychology	3
SOC	111	Sociology	3
MAT	120	Math for Behavioral Sciences	3
or			
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
CRJ	101	Intro to Criminal Justice	3
CRJ	102	Criminal Law	3
CRJ	104	Drugs Society/Human Behavior	3
CRJ	105	Computer Appl in Crim./Justice	3
CRJ	115	Essntls of Intrvwng/Counslng	3
CRJ	118	Corrections in America	3
CRJ	220	Criminal Judiciary	3
CRJ	222	Constitutional Law	3
CRJ	223	Criminology	3
CRJ	226	Crisis Intervention	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
ENG	122	Technical Writing-Comm	3
ENG	124	Oral Communications	3
PSY	223	Abnormal Psychology	3
POL	111	Political Science	3
or			
HIS	112	U. S. History: Post-Civil War	3
SPA	133	Using Beginning Spanish	3
or			
SPA	136	Spanish Communication I	4

Culinary Arts

Culinary Arts

A.A.S. Degree (T,S)

This program provides students with the basic skills necessary for pursuing a career as a chef. Graduates will also be prepared for continuing their studies towards an advanced degree. Classes are a combination of classroom lecture and hands-on cooking in the demonstration kitchen. Students also prepare and serve lunch in the restaurant located on campus. Students must complete a practicum (field experience) prior to graduation.

Graduates can expect to find employment in hotels, restaurants, clubs, and institutional settings. The program is a member of the National Restaurant Association and the American Culinary Federation. Interested applicants should contact Admissions for required admissions packet.

The Stanton and Terry Campus Culinary Arts programs are accredited by the American Culinary Federation, Foundation Inc.'s Accrediting Commission; 180 Center Place Way; St. Augustine, FL 32095 (800) 624-9458.

CORE COURSES

Courses			Credits
COM	111	Human Communications	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	120	Math for Behavioral Sciences	3
PSY	121	General Psychology	3

PROGRAM/MAJOR COURSES

Courses			Credits
CUL	119	Food Safety and Sanitation	2
CUL	121	Food Prep I	4
CUL	156	Practicum	3
CUL	171	Garde Manger	4
CUL	245	Applied Hospitality	2
CUL	261	Baking	4
CUL	262	Pastry	4
CUL	285	International Cuisine	4
CUL	291	Food Prep II	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
HRI	210	Beverage Management	3
HRI	212	Food/Beverage Cost Control	3
MGT	148	Culinary Supervisory Develpmnt	3
SCI	141	Nutrition in the Culinary Fld	2

Allied Health

Dental Hygiene

A.A.S. Degree (W)

The Dental Hygiene program provides comprehensive educational experiences for qualified students to achieve the knowledge and skills necessary to be eligible for licensure and employment as dental hygienists. The program is accredited by the Commission on Dental Accreditation, 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. The program includes didactic, laboratory and clinical experiences and is based at the Wilmington Campus, with an extension location at the Terry Campus (Dover, DE) that serves Kent and Sussex county students. The Terry Campus-based students complete their didactic courses at both the Dover

and Wilmington campus locations and their clinical experiences at the Dover Air Force Base. The Dental Hygiene program cycle begins once a year in the fall semester. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses		Credits
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 135	Biomedical Statistics	3
PSY 121	General Psychology	3
SOC 111	Sociology	3

PROGRAM/MAJOR COURSES

Courses		Credits
DHY 101	Clinical Dental Hygiene I	2
DHY 102	Clinical Dental Hygiene II	3
DHY 103	Clinical Dental Hygiene III	2
DHY 111	Dental Hygiene Fundamtls I	3
DHY 112	Dental Hygiene Fundmtls II	3
DHY 121	Oral Histology/Embryology	2
DHY 132	Dental Anatomy	1.5
DHY 133	Head and Neck Anatomy	1.5
DHY 141	Oral Radiography	3
DHY 151	Periodontology/Cariology	3
DHY 161	Oral Pathology	3
DHY 204	Clinical Dental Hygiene IV	4
DHY 205	Clinical Dental Hygiene V	4
DHY 212	The Compromised Dental Patient	1.5
DHY 213	Adv Clinical Techniques	3
DHY 215	Practice Management	1
DHY 271	Pharmacology for Dental Hygien	1.5
DHY 281	Operative/Specialty Dentistry	1
DHY 290	Community Dental Health	2
DHY 291	Communty Dental Health Fld Wrk	1

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
BIO 100	Medical Terminology	3
BIO 115	Nutrition	3
BIO 120	Anatomy and Physiology I	5
BIO 121	Anatomy and Physiology II	5
BIO 125	Introductory Microbiology	4
CHM 110	General Chemistry	4

Design Engineering Technology

Design Engineering (Mechanical)

A.A.S. Degree (O)

The Design Engineering Technology curriculum is designed to provide students with a broad knowledge of basic engineering principles. An emphasis is placed on manufacturing, machining, and mechanical drafting and design. The program incorporates hands-on courses that provide students with experience in the modern technologies used in today's manufacturing sector. The program incorporates direct experience in CADD (computer-aided drafting and design), CNC (computer numerical control) machining, and CAM (computer-aided manufacturing). Careers in mechanical design, manufacturing, machining, maintenance, technical sales, and engineering management are likely areas of employment. The Design Engineering Technology program at the Owens Campus is accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.

CORE COURSES

Courses		Credits
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 181	Algebra and Trigonometry I	4
or		
MAT 185	Precalculus	4
Select 2 course(s) from:		
CLT 110	Cross-Cultural Immersion	3
ECO 111	Macroeconomics	3
ECO 122	Microeconomics	3
HIS 111	U. S. History: Pre-Civil War	3
HIS 112	U. S. History: Post-Civil War	3
POL 111	Political Science	3
PSY 121	General Psychology	3
SOC 111	Sociology	3

PROGRAM/MAJOR COURSES

Courses		Credits
EDD 141	Engr Drafting & Design I	4
EDD 171	Intro to CAD Using AutoCAD	3
EDD 272	Solid Modeling	3
EDD 273	Advanced Solid Modeling	3
EDT 128	Machine Trades Blueprnt Rding	3
EDT 152	Engineering Design II	4
EDT 252	Engineering Design III	4
ELC 125	Electrical Circuits I	4
IET 209	Survey in Prod Plan & Cntrl	3

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
MET 123	Modern MFG Techniques	3
MET 125	Adv Manufacturing Techniques	3
MET 132	Statics	3
MET 242	Strength of Materials	3

PHY	205	General Physics I	4
or			
PHY	281	Physics I with Calculus	4
MAT	182	Algebra and Trigonometry II	4
or			
MAT	281	Calculus I	4

Allied Health

Diagnostic Medical Sonography: Owens

A.A.S. Degree (O)

Diagnostic Medical Sonography is the art and science of employing high frequency sound waves to image organs, vessels, masses, and fluid accumulations within the body. The skilled sonographer, qualified by academic and clinical training, assists the physician in assessing both disease processes and the state of well-being. The Diagnostic Medical Sonography program is accredited by the Joint Review Committee on Education in Diagnostic Medical Sonography (JRCDMS) 6021 University Blvd., Suite 500, Ellicott City, MD 21043, (443) 973-3251 of the Commission on Accreditation of Allied Health Education Programs (CAAHEP) 1361 Park Street Clearwater, FL 33756, (727) 210-2350 to prepare students for national certification in general sonographic learning concentrations.

Courses are offered on campus and at a variety of clinical affiliates. Employment opportunities in this dynamic field exist in a wide range of settings such as hospitals, clinics, and doctors' offices. Other opportunities are available in veterinary medicine, industry, sales, mobile services, and the private sector. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	153	College Math and Statistics	4
PSY	121	General Psychology	3
SOC	213	Ethical Issues in Health Care	3

PROGRAM/MAJOR COURSES

Courses			Credits
DMS	104	Intro to Clinical Internship	1
DMS	107	Essentials in Pt. Care/Sono	3
DMS	110	Acoustical Physics	3
DMS	112	OB/GYN Sonography I	2
DMS	131	Abd/Small Parts Sono. I	2
DMS	214	Essentials in Vascular U/S	2
DMS	215	OB/GYN Sonography II	2
DMS	231	Abd/Small Parts Sono. II	2
DMS	235	Pediatric Sonography	1
DMS	240	Clinical Internship I	3
DMS	241	Clinical Internship II	6
DMS	242	Clinical Internship III	5
DMS	243	Clinical Internship IV	5
DMS	250	Selected Topics in U/S	2

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	100	Medical Terminology	3
BIO	120	Anatomy and Physiology I	5
BIO	121	Anatomy and Physiology II	5
BIO	130	Disease Proc/Pathophysiology	3
CHM	110	General Chemistry	4
PHY	111	Conceptual Physics	4

Allied Health

Diagnostic Medical Sonography: Wilmington

A.A.S. Degree (W)

Diagnostic Medical Sonography is the art and science of employing high frequency sound waves to image organs, vessels, masses, and fluid accumulations within the body. The skilled sonographer, qualified by academic and clinical training, assists the physician in assessing both disease processes and the state of well-being. The Diagnostic Medical Sonography program is accredited by the Joint Review Committee on Education in Diagnostic Medical Sonography (JRCDMS) 6021 University Blvd., Suite 500, Ellicott City, MD 21043, (443) 973-3251 of the Commission on Accreditation of Allied Health Education Programs (CAAHEP) 1361 Park Street Clearwater, FL 33756, (727) 210-2350 to prepare students for national certification in general sonographic learning concentrations.

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CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
PSY	121	General Psychology	3
SOC	213	Ethical Issues in Health Care	3
MAT	153	College Math and Statistics	4
or			
MAT	181	Algebra and Trigonometry I	4

PROGRAM/MAJOR COURSES

Courses			Credits
DMS	106	Intro-Patient Care/Sonography	3
DMS	108	Intro to Clin Internship I	1
DMS	109	Intro to Clin Internship II	1
DMS	110	Acoustical Physics	3
DMS	113	Gynecological Sonography	2
DMS	114	Obstetrical Sonography	2
DMS	121	Abdominal Sonography I	2
DMS	122	Abdominal Sonography II	2
DMS	201	Clinical Internship I	3
DMS	202	Clinical Internship II	7
DMS	203	Clinical Internship III	7
DMS	210	Scanning Applications	1
DMS	211	Abdominal Sonography III	1
DMS	230	Special Topics	2
VAS	111	Vascular Techniques I	3
VAS	112	Vascular Techniques II	3
VAS	213	Vascular Techniques III	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	100	Medical Terminology	3
BIO	120	Anatomy and Physiology I	5
BIO	121	Anatomy and Physiology II	5
BIO	130	Disease Proc/Pathophysiology	3
CHM	110	General Chemistry	4
PHY	111	Conceptual Physics	4

Human Services

Drug Alcohol Counseling

A.A.S. Degree (T,W)

The goal of the Drug and Alcohol Counseling curriculum is to train students in the various theories and techniques which are unique to drug and alcohol counseling. This program will prepare students for entry into the drug and alcohol counseling profession and/or to continue their education at a four-year institution to complete a bachelor's degree.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
PSY	121	General Psychology	3
SOC	111	Sociology	3
MAT	120	Math for Behavioral Sciences	3
or			
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
DAC	141	Intro Drug&Alcohol Counseling	3
DAC	225	Drug&Alcohol Counseling II	3
DAC	230	Assessmnt/Trtmnt/D&A Counslng	3
DAC	240	Families & Addiction	3
DAC	244	Dir Practice II-Drug/Alcohol	6
HMS	121	Intro To Human Services	3
HMS	122	Theories of Counseling	3
HMS	123	Dynamics/Group Communication I	3
HMS	221	Ethical Problems and Issues	3
HMS	243	Directed Practice I	6

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
COM	222	Intercultural Communication	3
POL	111	Political Science	3
PSY	127	Human Development	3
PSY	223	Abnormal Psychology	3

Early Childhood Education

Early Childhood Development

A.A.S. Degree (O,T,W)

The Early Childhood Education Development curriculum prepares the future Early Childhood Professionals to develop and implement curriculum, to communicate effectively with families, and to manage a classroom or a child care program Students may build on the Early Childhood Studies diploma. They will also receive a broad based education in Social Sciences, English, and Math. The Education department arranges for on-site community-based and/or lab school experiences.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	150	Business Mathematics	3
PSY	121	General Psychology	3
PSY	125	Child Development	3

PROGRAM/MAJOR COURSES

Courses			Credits
ECE	120	Comtemp Issues in Erly Childhd	3
ECE	121	Infant & Toddler Methods & Lab	5
ECE	123	Early Childhd Methods I & Lab	5
ECE	125	Early Childhd Methods II & Lab	5
ECE	127	Childhood Classroom Mgt	3
ECE	222	Program Planning/Evaluation	3
ECE	233	Exceptional Child	3
ECE	244	Fld Work - Teaching Practicum	6
EDC	220	Parent/Family/School Interact	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
ECE	111	Childhd Nutrition/Safety	3
ECE	226	Assessment of Young Children	3
EDC	120	Foundations of Literacy	3
HIS	111	U. S. History: Pre-Civil War	3

Electrical and Computer Engineering

Electrical and Computer Engineering Transfer Option

A.A.S. Degree (O,T,S)

This program is designed for students that are interested in pursuing a career in the exciting fields of electrical or computer engineering. Electrical and computer engineers design, research, develop, and test electrical and computer systems and components in a variety of industries. Electrical and computer engineers are designers and innovators that help create the products that we use and rely on in our daily lives for work, entertainment, safety, health, and happiness. Electrical and computer engineers also develop solutions to current and future problems like sustainable energy resources, secure networks and computers, and new and innovative medical equipment.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	281	Calculus I	4
Select 1 course(s) from:			
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
HIS	111	U. S. History: Pre-Civil War	3
HIS	112	U. S. History: Post-Civil War	3
POL	111	Political Science	3
PSY	121	General Psychology	3
SOC	111	Sociology	3
SPA	136	Spanish Communication I	4
VSC	131	Art History I	3
VSC	132	Art History II	3

PROGRAM/MAJOR COURSES

Courses			Credits
CEN	100	Intro Elec & Computer Eng Tech	3
CEN	200	Introduction to MATLAB	2
CIS	211	Data Structures	4
CSC	114	Computer Science I	4
CSC	164	Computer Science II	4
ELC	265	Intro to Digital Systems	3
ELC	266	Analog Circuits I	4
ELC	272	Electronic Circuit Analysis I	4
ELC	275	Microprocessor Systems	4
ELC	282	Signals and Systems	4
MAT	292	Engineering Math I	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CHM	150	Chemical Principles I	5
MAT	282	Calculus II	4
MAT	283	Calculus III	4
PHY	281	Physics I with Calculus	4
PHY	282	Physics II with Calculus	4

Electromechanical Engineering Technology

Electromechanical Engineering Technology

A.A.S. Degree (T)

The Electromechanical Engineering Technology Department awards a student an Associate in Applied Science (A.A.S.) degree. To receive this degree, the student must complete training in the fields of electricity, electronics, process control, and hydraulics/pneumatics. The graduating student will be able to construct electrical, electronic, and fluid circuits from engineering designs provided by supervisory engineers, to apply test and evaluation procedures to these circuits, and to correct circuit defects with instrument-aided analysis.

A graduate of this technology is qualified for at least an entry-level position in the electromechanical field, which includes plant maintenance, small machine repairs, and school or hospital maintenance. A student may also choose to attend a four-year institution and pursue a baccalaureate degree in industrial, mechanical, or electromechanical engineering.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	181	Algebra and Trigonometry I	4
Select 2 course(s) from:			
COM	111	Human Communications	3
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
HIS	111	U. S. History: Pre-Civil War	3
HIS	112	U. S. History: Post-Civil War	3
POL	111	Political Science	3
PSY	100	Human Relations	3
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
CEN	126	Industrial Networks	3
ELC	125	Electrical Circuits I	4
ELC	127	Digital Electronics	4
ELC	243	Programmable Logic Controllers	4
ELM	130	Industrial Electricity	3
ELM	205	Mechanisms and Design	3
ELM	250	Industrial Automation	3
ELM	252	Fluid Power	3
ELM	290	Electromechanical Internship	3
MET	132	Statics	3
MET	242	Strength of Materials	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
EDD	131	Engineering Graphics/CAD	3
MAT	182	Algebra and Trigonometry II	4
PHY	205	General Physics I	4
PHY	206	General Physics II	4

Electronics Engineering Technology

Electronics Engineering Tcy

A.A.S. Degree (O,T,S)

The graduate of the Electronics program has extensive training in analog and digital electronics with emphasis on applications and analysis relating to microprocessor, industrial control and communication systems. The students are skilled in computer simulation, robotics, programmable logic controllers, networking, and wireless communications. This program integrates the teaching styles of lecture, demonstration, laboratory and "hands-on" into all course work. Career opportunities in engineering, robotics, avionics, communications, computer electronics, quality control, networking, microwave filters, and manufacturing are likely employment areas.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	181	Algebra and Trigonometry I	4
MAT	182	Algebra and Trigonometry II	4
Select 2 course(s) from:			
COM	111	Human Communications	3
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
POL	111	Political Science	3
PSY	100	Human Relations	3
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
ELC	125	Electrical Circuits I	4
ELC	126	Analog Electronics I	3
ELC	127	Digital Electronics	4
ELC	225	Electrical Circuits II	4
ELC	226	Analog Electronics II	3
ELC	227	Microcontroller Fundamentals	3
ELC	228	Microcontroller Applications	4
ELC	236	Analog Electronics III	3
ELC	243	Programmable Logic Controllers	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CEN	100	Intro Elec & Computer Eng Tech	3
CEN	150	Computer Assembly/Maint	4
CEN	180	C/C++ Language Intro	4
PHY	205	General Physics I	4

Allied Health

Emergency Medical Technician Paramedic

A.A.S. Degree (T)

The Emergency Medical Program prepares students to provide advanced prehospital emergency care under medical command authority to acutely ill or injured patients. Students will recognize, assess, and manage a medical or trauma emergency, record and communicate pertinent data to designated medical command authority, and direct and coordinate the transport of the patient. Students study both on campus and at a variety of field sites. The Emergency Medical Technician program is accredited by the Commission on Accreditation of Allied Health Education Programs upon the recommendation of Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP); 1361 Park Street;

Clearwater, FL 33756; 727-210-2350; www.caahep.org. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	130	Algebra for Allied Health	4
or			
MAT	129	Math for Health Sciences	3
or			
MAT	140	Essentials of College Algebra	4
PSY	121	General Psychology	3
or			
SOC	111	Sociology	3
SOC	213	Ethical Issues in Health Care	3
or			
PSY	223	Abnormal Psychology	3

PROGRAM/MAJOR COURSES

Courses			Credits
EMT	200	Intro To Paramedic Technology	5
EMT	201	Patient Assessment	3
EMT	202	Medical Emergencies I	3
EMT	203	ALS Skills Lab I	3
EMT	204	Special Populations	4
EMT	207	Paramedic Clinical I	1
EMT	211	Cardiology	4
EMT	212	Medical Emergencies II	3
EMT	213	ALS Skills Lab II	3
EMT	214	Legal Issues/Research	3
EMT	215	Trauma Emergencies	2
EMT	217	Paramedic Clinical II	3
EMT	227	Paramedic Clinical III	3
EMT	290	Paramedic Field Clinical	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	120	Anatomy and Physiology I	5
BIO	121	Anatomy and Physiology II	5
BIO	130	Disease Proc/Pathophysiology	3
CHM	100	Basic Chemistry	3
or			
CHM	110	General Chemistry	4

Energy

Energy Management

A.A.S. Degree (O,T,S)

Students will gain an understanding of energy systems in today's "built environment" and the tools to analyze and quantify energy efficiency. Students will develop sophisticated skills in multi-level analysis, including human and computer modeling, to improve energy efficiency in commercial spaces. These skills will be applied to the description and measurement of energy in building systems with the goal of evaluating and recommending energy solutions that will result in greater efficiency, energy cost savings and lower environmental impact. This approach allows energy users to apply strategic efforts to reduce consumption analytically, as opposed to only replacing controls or undertaking expensive changes in equipment. Academically ready students can apply to the program following the guidelines of each location's competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	140	Essentials of College Algebra	4
SOC	103	Sustainability and Society	3
Select 1 course(s) from:			
COM	111	Human Communications	3
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
PSY	100	Human Relations	3
PSY	121	General Psychology	3

PROGRAM/MAJOR COURSES

Courses			Credits
NRG	101	Intro to Energy Management	3
NRG	111	Res/Light Comm Energy Analysis	2
NRG	124	Energy Efficient Methods	3
NRG	142	Energy Accounting	2
NRG	154	Alternativ Energy Technologies	2
NRG	206	Co-op Ed: Energy Management	3
NRG	214	Capstone in Energy Use/Anal.	6
NRG	223	Energy Control Strategies	3
NRG	233	Lighting Fundmt & Applications	4
NRG	241	Energy Investment Analysis	2

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
ACR	121	HVAC Energy Systems	3
ACR	222	Commercial HVAC Energy Analysi	2
OAT	152	Excel Level I	3
PHY	111	Conceptual Physics	4
AET	111	Constr Blueprint Reading	4
or			
AET	123	Arch Drafting/Design I	4

Entrepreneurial

Entrepreneurship

A.A.S. Degree (O,T,W)

The Entrepreneurship Program is a comprehensive program of integrated credit and non-credit offerings providing opportunities for students to learn successful entrepreneurship. Students may complete an associate degree in entrepreneurship, complete entrepreneurship courses while majoring in another career area for a dual associate degree, complete entrepreneurship courses for a credit certificate, or complete entrepreneurship courses in a non-credit format earning continuing education units (CEU's). Supporting Offerings are provided, which relate to each of the entrepreneurship courses. These Supporting Offerings include Meet the Entrepreneur Series and the Tell Me More Series where experts expand upon topics taught in the courses. An annual conference each spring will be a culminating activity.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	140	Essentials of College Algebra	4
or			
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
ENT	103	Legal Issues for ENT	3
ENT	106	Business Procedures	3
ENT	211	Business Start Up Design	3
ENT	220	Leadership	3
ENT	225	Entrepreneurial Experience	3
ENT	240	Funding & Finance for ENT	3
ENT	285	Business Plan Development	3
MGT	212	Principles of Management	3
MGT	231	Human Resource Management	3
ENT	101	Intro to Entrepreneurship	3
or			
BUS	101	Introduction to Business	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
MKT	212	Principles of Marketing	3
ACC	100	Introduction to Accounting	3
or			
ACC	101	Accounting I	4
ENG	122	Technical Writing-Comm	3
or			
ENG	124	Oral Communications	3
Select 1 course(s) from:			
ACC	162	Computerized Accounting	3
EBZ	220	Fundamentals of E-Commerce	3
MIS	220	Management Information Systems	3
MKT	217	E-Marketing Fundamentals	3

Environmental Technology

Environmental Technology Water Quality

A.A.S. Degree (O)

This environmental program was specifically designed to prepare students for a career as a highly skilled professional in the water or wastewater field. The curriculum was prepared with direct input from state and federal environmental and regulatory agencies to ensure that the program's content matched current practices for treatment system design, operation, and management. The curriculum provides a combination of science and applied technology specific to the field of water and wastewater treatment. Graduates may find employment as plant operators, technicians, technical sales representatives, or engineering technicians in design firms or related manufacturing industries. Private industry, state, and local governments are sources of employment.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	181	Algebra and Trigonometry I	4
Select 2 course(s) from:			
COM	111	Human Communications	3
POL	111	Political Science	3
SOC	111	Sociology	3
ECO	111	Macroeconomics	3
or			
ECO	122	Microeconomics	3
HIS	111	U. S. History: Pre-Civil War	3
or			
HIS	112	U. S. History: Post-Civil War	3
PSY	100	Human Relations	3
or			
PSY	121	General Psychology	3

PROGRAM/MAJOR COURSES

Courses			Credits
CET	240	Hydraulics and Hydrology	4
ENV	190	Intro to Envtl Science & Tech	3
ENV	256	Process Control	3
ENV	264	Wtr Srcs, Trnsmssn & Dstrbtn	3
ENV	267	Water Treatment	4

ENV	292	Wastewater Sys & Solid Hndling	4
ENV	293	Mgmt of Wastewater/Water Fac	4
ENV	298	Instrumentation & Pumping	3
EDT	128	Machine Trades Blueprnt Rding	3
or			
AET	111	Constr Blueprint Reading	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
ELC	122	Electronic Devices/Circuits I	3
BIO	140	General Biology	4
or			
BIO	150	Biology I	4
CHM	100	Basic Chemistry	3
or			
CHM	110	General Chemistry	4
CIS	107	Intro to Computers/Application	3
or			
IET	150	Computer Applications	3
MAT	182	Algebra and Trigonometry II	4
or			
MAT	153	College Math and Statistics	4

Engineering

Environmental Technology: Environmental Engineering Technology

A.A.S. Degree (O,S)

The program provides a full range of courses to prepare students for entry-level positions in the environmental engineering technology field. The Environmental Engineering Technology Program is designed to educate students in the general and technical aspects of environmental issues and common practice environmental procedures. The degree focuses on practical education with courses covering the basic quantitative and conceptual skills required of environmental engineering technicians. The curriculum is broad-based to meet the demands of a range of environmental positions.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
CLT	110	Cross-Cultural Immersion	3
or			
PSY	121	General Psychology	3
Select 1 course(s) from:			
MAT	181	Algebra and Trigonometry I	4
MAT	185	Precalculus	4
MAT	281	Calculus I	4

PROGRAM/MAJOR COURSES

Courses			Credits
CET	125	Civil & Envl Drafting & Design	4
CET	144	Surveying Principles	4
CET	240	Hydraulics and Hydrology	4
ENV	190	Intro to Envtl Science & Tech	3
ENV	215	OSHA Hazardous Waste Operation	2
ENV	240	Environmental Field Sampling	3
ENV	260	Water/Wastewater Process Dsgn	4
ENV	271	Principles of Site Assessment	2
ENV	275	Environmental Sustainability	3
GEO	105	Geology and the Environment	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	150	Biology I	4
CHM	110	General Chemistry	4
EDD	171	Intro to CAD Using AutoCAD	3
GIS	101	Introduction to GIS	3
MAT	153	College Math and Statistics	4

Allied Health

Exercise Science

A.A.S. Degree (W)

This curriculum is designed to prepare students as fitness technicians. Students will learn to properly conduct health screenings, administer exercise tests, and develop cardiovascular and strength training exercise programs. Through the technical component of the program, students will develop an in-depth understanding of exercise physiology, kinesiology, exercise testing, and fitness programming. Graduates will be qualified to sit for various certifications as offered by the American Council on Exercise (ACE), National Strength and Conditioning Association (NSCA), and American College of Sports Medicine (ACSM) as a Certified Personal Trainer, Group Fitness Instructor, or Lifestyle and Weight Management Coach.

Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
PSY	121	General Psychology	3

MAT 153	College Math and Statistics	4
or		
MAT 181	Algebra and Trigonometry I	4
or		
MAT 185	Precalculus	4
SOC 111	Sociology	3
or		
SOC 213	Ethical Issues in Health Care	3

PROGRAM/MAJOR COURSES

Courses		Credits
EXS 100	Introduction to Exercise Scien	4
EXS 101	Functional Kinesiology	3
EXS 105	Conditioning & Strength Trning	4
EXS 120	Wellness and Health Promotion	3
EXS 135	Exercise Science Clinical I	2
EXS 200	Nutrition for Sport & Exercise	3
EXS 205	Fitness for Special Populatns	3
EXS 225	Advanced Exercise Testing	4
EXS 230	Health Fitness Instruction	4
EXS 235	Exercise Clinical II	5

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
BIO 115	Nutrition	3
BIO 120	Anatomy and Physiology I	5
BIO 121	Anatomy and Physiology II	5
HLH 110	First Aid, Safety & CPR	3

Fire Protection Engineering Technology

Fire Protection

A.A.S. Degree (S)

This curriculum is designed to provide the necessary knowledge and skills to work in many areas of the fire protection field and to help solve fire protection and related safety problems in our complex technological society. Technical changes within industry and an increase in the number, variety, type of chemicals, flammable and combustible products, and population densities have accentuated the fire problem. The fire protection engineering technician has a broad scope of occupational opportunities in a variety of areas which include insurance, industry, equipment manufacturers, municipal, and state agencies. Fire protection engineering technicians apply their knowledge in a systematic approach to plans review, occupancy inspections for code compliance, fire prevention planning, fire safety and loss prevention programs, fire administration, equipment representation and sales, and fire protection system design. Laboratory work, field inspections, and field trips provide added experiences. The Fire Protection program emphasizes design and application principles.

CORE COURSES

Courses		Credits
ECO 111	Macroeconomics	3
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 181	Algebra and Trigonometry I	4
PSY 121	General Psychology	3

PROGRAM/MAJOR COURSES

Courses		Credits
FET 111	Intro to Fire Protec Eng Tech	4
FET 112	Fire Protection Systems	3
FET 160	Codes and Standards	4
FET 200	Industrial Fire Hazards	4
FET 201	Loss Control Procedures	3
FET 221	Fire Design I	4
FET 222	Fire Protection Design II	4
FET 261	Inspections	4

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
AET 123	Arch Drafting/Design I	4
AET 264	Architectural CAD Applications	3
CHM 110	General Chemistry	4
EDD 171	Intro to CAD Using AutoCAD	3
PHY 111	Conceptual Physics	4

Food Safety

Food Safety

A.A.S. Degree (O)

Employment demands for highly skilled Food Safety graduates are projected to continue to increase over the next decade. Food Safety is the application of food science to the selection, preservation, processing, packaging, distribution, and use of safe food. The food consumed on a daily basis is the result of extensive food research - a systematic investigation by food scientists into a variety of foods' properties and compositions. It is through the application of the research that food reaches the consumer. Using the principles of food safety, food products are mass produced, and it is the food safety technicians who have the knowledge of selection, preservation, processing, packaging, and distribution resulting in safe food being consumed. All of these interrelated fields contribute to the food industry -- the largest manufacturing industry in the United States.

CORE COURSES

Courses		Credits
ECO 111	Macroeconomics	3
ENG 101	Crit Thinking & Acad Writing	3

ENG	102	Composition and Research	3
MAT	153	College Math and Statistics	4
or			
MAT	181	Algebra and Trigonometry I	4
or			
MAT	185	Precalculus	4
PSY	121	General Psychology	3
or			
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
FSY	100	Introduction to Food Safety	3
FSY	110	Food Safety & Sanitation	4
FSY	120	Technology of Food Processing	3
FSY	205	Principles of HACCP	3
FSY	210	Food Safety & Defense	3
FSY	220	Food Chemistry	4
FSY	225	Microbiology of Foods	4
FSY	290	Food Safety Internship	5
FSY	291	Seminar in Food Safety	2

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	115	Nutrition	3
BIO	140	General Biology	4
CHM	100	Basic Chemistry	3
CIS	107	Intro to Computers/Application	3
POS	215	Poultry Production Management	3

Food Service Management

Food Service Management

A.A.S. Degree (S)

This management program prepares students for a professional career in the hospitality industry. In addition to the course work, industry work experience is required for the degree. Students will be prepared for employment in full service dinner houses, family restaurants, institutional facilities, and casual dining operations. The Food Service Management program is accredited by the American Culinary Federation, Foundation Inc.'s Accrediting Commission; 180 Center Place Way; St. Augustine, FL 32095; 800-624-9458.

CORE COURSES

Courses			Credits
COM	111	Human Communications	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	120	Math for Behavioral Sciences	3
PSY	121	General Psychology	3

PROGRAM/MAJOR COURSES

Courses			Credits
CUL	119	Food Safety and Sanitation	2
CUL	121	Food Prep I	4
CUL	245	Applied Hospitality	2
FSM	123	Intro to Food Service	3
FSM	151	Field Experience I	3
FSM	152	Field Experience II	3
FSM	210	Quantity Food Production	3
FSM	265	Effectv Food Serv Mrkt & Mngnt	3
HRI	210	Beverage Management	3
HRI	212	Food/Beverage Cost Control	3
HRI	219	Innkeepers' Law	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
ACC	101	Accounting I	4
BUS	101	Introduction to Business	3
CIS	107	Intro to Computers/Application	3
MGT	148	Culinary Supervisory Develpmnt	3
SCI	141	Nutrition in the Culinary Fld	2

Business

General Business

A.A.S. Degree (O,T,W)

General Business is tailored to enable students to combine studies in non-business and business courses that best match their individual education goals. This program is intended for full-time business students who plan to transfer to a four-year business college or university after graduation before entering the workforce. This flexibility affords students a unique preparation for continued business studies at an institution of higher learning as well as preparation for professional and technical careers requiring basic business and specific technical skills. A degree from this program, which has earned national accreditation from the Association of Collegiate Business Schools and Programs (ACBSP), sends a clear signal to potential employers that you have completed a high quality business program that meets rigorous educational requirements established by the ACBSP.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	140	Essentials of College Algebra	4
or			
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
ACC	101	Accounting I	4
ACC	112	Accounting II	4
BUS	101	Introduction to Business	3
BUS	203	Business Law	3
BUS	275	Portfolio/Experiential Lrning	3
FIN	221	Money and Banking	3
MGT	212	Principles of Management	3
MKT	212	Principles of Marketing	3
Select 2 course(s) from:			
ACC	162	Computerized Accounting	3
MGT	218	Small Business Management	3
MGT	231	Human Resource Management	3
MIS	220	Management Information Systems	3
MKT	214	Advertising and Promotion	3
MKT	219	Sales & Sales Management	3
OAT	121	Keyboarding	4
OAT	151	Access Level I	3
OAT	152	Excel Level I	3
OAT	157	Word Level I	3
OAT	158	Word Level II	3
OAT	159	PowerPoint	3
OAT	242	Desktop Publishing	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
MAT	255	Business Statistics I	3
SOC	215	Business Ethics	3
CIS	112	Spreadsheet/Graphics Proc	3
or			
OAT	152	Excel Level I	3
Select 1 course(s) from:			
ENG	122	Technical Writing-Comm	3
ENG	124	Oral Communications	3
HIS	111	U. S. History: Pre-Civil War	3
HIS	112	U. S. History: Post-Civil War	3
PSY	121	General Psychology	3
SOC	111	Sociology	3
SPA	136	Spanish Communication I	4

Allied Health

Health Information Management

A.A.S. Degree (W)

The Health Information Management associate degree curriculum provides individuals with the knowledge and skills to process, analyze, abstract, compile, maintain, manage, and report health information. The program is designed to prepare students to function effectively in a technical manner in health information departments in a wide variety of health care settings. These settings include ambulatory care, rehabilitation centers, drug and alcohol facilities, local health departments, third-party payers, pharmaceutical companies, acute care, as well as other health care related organizations such as insurance companies, consulting firms, and technology companies.

Health Information professionals are responsible for maintaining components of health information computer systems, protecting patient privacy and providing information security, ensuring health information is complete and available to legitimate users, coding and classifying data for reimbursement, analyzing information necessary for decision support, complying with standards and regulations regarding health information, preparing health data for accreditation and licensing surveys, and analyzing clinical data for research and public policy. In all types of facilities, and in various locations within a facility, the health information technician possesses the technical knowledge and skills necessary to process, maintain, compile and report health information data for reimbursement, facility planning, marketing, risk management, utilization management, quality improvement, and research. In addition, the health information technician may be responsible for functional supervision of the various components of the health information system.

This program provides instruction and clinical experiences that assist students in developing the technical skills necessary for many entry level health information positions. Graduates will receive the associate in applied science degree from the College and may be eligible to sit for a variety of credential exams in the career field, depending on their work experience. Academically ready students can apply to the program following the guidelines of the Allied Health's competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	135	Biomedical Statistics	3
PSY	121	General Psychology	3
SOC	213	Ethical Issues in Health Care	3

PROGRAM/MAJOR COURSES

Courses			Credits
HIM	120	ICD Coding I	4
HIM	121	ICD Coding II	4
HIM	122	CPT Coding	4
HIM	130	Legal Aspects of HIM	3
HIM	131	HIM and Healthcare IT	4
HIM	222	Healthcare Reimbursement	3

HIM	225	Technical Practicum	3
HIM	230	Supervision & Organization	3
HIM	231	Quality Assessment	3
HIM	250	Professional Practicum	4
HIT	100	Intro to Health Information	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	100	Medical Terminology	3
BIO	108	Basic Pharmacology	2
BIO	120	Anatomy and Physiology I	5
BIO	121	Anatomy and Physiology II	5
BIO	130	Disease Proc/Pathophysiology	3
CIS	107	Intro to Computers/Application	3

Allied Health

Histotechnician

A.A.S. Degree (W)

Histotechnology is the art of preparing tissue through specialized cutting, embedding, and staining procedures for both research and diagnostic purposes. The histotechnician is the skilled specialist who prepares and stains these thin tissue specimens for examination by pathologists, dermatologists, researchers, and biologists. They are also trained to perform immunohistochemistry, complex molecular biology and genetic testing procedures using high-tech instruments. Histotechnicians may be employed in hospitals, dermatology laboratories, outpatient laboratories, veterinary facilities, or research laboratories. They work with pathologists, dermatologists, pharmaceutical companies, or forensic investigators. The specimens they prepare can be of human, animal, marine, or plant tissue. The program is fully accredited through the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) 5600 N. River Road, Suite 720, Rosemont, IL 60018, (773) 714-8880 and prepares students to sit for the A.S.C.P. examination. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
PSY	121	General Psychology	3
SOC	111	Sociology	3
SOC	213	Ethical Issues in Health Care	3
MAT	153	College Math and Statistics	4
or			
MAT	181	Algebra and Trigonometry I	4

PROGRAM/MAJOR COURSES

Courses			Credits
HTT	100	Intro To Histotechnology	2
HTT	201	Histology	2
HTT	202	Histology Internship	9
HTT	211	Histotechnology Procedures I	3
HTT	212	Histotechnology Procedures II	3
HTT	220	Histochemistry I	3
HTT	221	Histochemistry II	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	100	Medical Terminology	3
BIO	120	Anatomy and Physiology I	5
BIO	121	Anatomy and Physiology II	5
BIO	125	Introductory Microbiology	4
CHM	110	General Chemistry	4
CHM	111	Intro to Organic & Biochemstry	4
CIS	107	Intro to Computers/Application	3

Criminal Justice

Homeland Security and Emergency Management

A.A.S. Degree (T)

The Homeland Security and Emergency Management Option is a comprehensive option that will provide opportunities to partner with non-credit and continuing education offerings of the college. Students may elect to complete an associate degree in the Homeland Security and Emergency Management Option, take courses in the subject matter while majoring in another career area for a dual associate degree, take courses for a credit certificate in the discipline, or take courses in a non-credit format earning continuing education credits (CEU's).

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
PSY	121	General Psychology	3
SOC	111	Sociology	3
MAT	153	College Math and Statistics	4
or			
MAT	120	Math for Behavioral Sciences	3

PROGRAM/MAJOR COURSES

Courses			Credits
CRJ	226	Crisis Intervention	3
HDM	101	Intro Hmlnd Sec/Emrgncy Mngt	3
HDM	103	Info/Intel Shrg in Hmlnd Sec	3
HDM	105	Environmental Hazards	3

HDM	110	Issues Hmland Sec & Emg Mgt	3
HDM	202	Hmlnd Defn/Emerg Mgt 1st Rspnd	3
HDM	204	All-Hzrds/Infra/Protection	3
HDM	225	Supervision Leadership in E M	3
HDM	244	Introduction to Terrorism	3
ISY	143	Intro to Information Security	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
CRJ	222	Constitutional Law	3
CRJ	223	Criminology	3
ENG	122	Technical Writing-Comm	3
SPA	133	Using Beginning Spanish	3
or			
SPA	136	Spanish Communication I	4

Business

Hospitality Management

A.A.S. Degree (T,W)

As a manager in a hotel, restaurant, country club, theme park or attractions environment, you will play a vital role in the success of that organization. Along with a solid background in the principles of business, hospitality management requires a thorough knowledge of specific areas of hospitality operations. A degree from this program, which has earned national accreditation from the Association of College Business Schools and Programs (ACBSP), sends a clear signal to potential employers that you have completed a high quality business program that meets rigorous educational requirements established by the ACBSP. The majority of hospitality management courses are approved by the Educational Institute of the American Hotel and Motel Association.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	140	Essentials of College Algebra	4
or			
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
CUL	119	Food Safety and Sanitation	2
HRI	101	Introduction to Hospitality	3
HRI	112	Principles of Hospitality Mgt	3
HRI	210	Beverage Management	3
HRI	211	Quantity Food/Menu Planning	3
HRI	215	Lodging Operations Management	3
HRI	216	Property Management	3
HRI	219	Innkeepers' Law	3
MGT	231	Human Resource Management	3
MKT	212	Principles of Marketing	3
HRI	212	Food/Beverage Cost Control	3
or			
CUL	251	Cost Control/Menu Plan/Purch	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
ACC	101	Accounting I	4
ACC	112	Accounting II	4
CIS	107	Intro to Computers/Application	3
MAT	255	Business Statistics I	3
SPA	136	Spanish Communication I	4
or			
ENT	220	Leadership	3

Human Services

Human Services

A.A.S. Degree (O,T,W)

The mission of the Human Services Program is to provide students with an educational foundation which will allow them to successfully gain entry level employment within the human services arena and/or to succeed in continuing their education at a baccalaureate level upon graduation. The curriculum and individual courses consist of a balance between providing students with a strong theoretical and content foundation as well as an experiential, skill development component in order to prepare students to continue their education and/or to allow them to interface competently and ethically with clients and colleagues in a career setting.

The Human Services program at the Owens, Terry, and Wilmington Campuses are accredited by the Council for Standards in Human Service Education (CSHSE). The regional offices are located at 3337 Duke Street, Alexandria, VA 22314-5219,(571)257-3969 and the web site is http://www.cshse.org.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
PSY	121	General Psychology	3
PSY	223	Abnormal Psychology	3
MAT	120	Math for Behavioral Sciences	3
or			
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
HMS	121	Intro To Human Services	3
HMS	122	Theories of Counseling	3
HMS	123	Dynamics/Group Communication I	3
HMS	221	Ethical Problems and Issues	3
HMS	223	Social Policy/Program Planning	3
HMS	225	Interviewing/Counseling Skills	3
HMS	243	Directed Practice I	6
HMS	244	Directed Practice II	6

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
POL	111	Political Science	3
PSY	127	Human Development	3
SOC	111	Sociology	3
Select 1 course(s) from:			
BIO	110	Essentls-Anatomy & Physiology	4
BIO	120	Anatomy and Physiology I	5
BIO	140	General Biology	4
BIO	150	Biology I	4

Information Security

Information Security

A.A.S. Degree (O,T,W)

The curriculum addresses local, regional, and national workforce needs following the National Security Telecommunications and Information Systems Security standards. Students graduating with an associate degree in Information Security will be able to protect personal and networked computing devices from various kinds of cyber attacks. Building and maintaining secure networks, policies, and operating systems are key components to the curriculum.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	153	College Math and Statistics	4
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
ISY	111	Ethics & the Information Age	2
ISY	143	Intro to Information Security	3
ISY	150	Introductory Scripting	4
ISY	201	Advanced Operating Systems	3
ISY	243	Information & Network Security	4
ISY	250	Network Def & Countermeasures	3
ISY	251	Hardening the Infrastructure	3
ISY	270	Computer Forensics	4
ISY	280	Advanced Security Topics	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	120	Intro to Programming	4
CIS	141	Operating Systems I	3
CNE	180	Computer Assmbly & Maintenance	4
CNE	192	Network Administration	4

Electronic Engineering Technology

Instrumentation Option

A.A.S. Degree (S)

The Instrumentation Engineering Technology Option prepares graduates for careers as process control instrumentation engineering technicians. Workplace duties can include design, specification, management and troubleshooting of instrumentation and control systems in the areas of chemical processing, food processing, petrochemical production,manufacturing, energy production and other highly technical fields. Graduates offer their employers immediate contributions as team members equipped with a combination of technical knowledge, problem solving experience and communication skills. Courses include a strong component of practical applications, hands-on laboratory experience and basic theoretical concepts. Computer simulation and applications are an integral part of the curriculum. Studies focus on electrical and electronic circuits, digital circuits, microprocessors, computers, programmable logic controls, liquid and gas flow measurement, control systems, instrumentation and calibration. The Instrumentation Engineering Technology Option is a path through the Electronics Engineering Technology program which is accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	181	Algebra and Trigonometry I	4
MAT	182	Algebra and Trigonometry II	4
Select 2 course(s) from:			
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
POL	111	Political Science	3

PSY	100	Human Relations	3
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
ELC	101	Intro to Instrumentation	3
ELC	125	Electrical Circuits I	4
ELC	126	Analog Electronics I	3
ELC	127	Digital Electronics	4
ELC	225	Electrical Circuits II	4
ELC	227	Microcontroller Fundamentals	3
ELC	228	Microcontroller Applications	4
ELC	243	Programmable Logic Controllers	4
ELC	270	Process Instrumentation I	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CEN	100	Intro Elec & Computer Eng Tech	3
CEN	150	Computer Assembly/Maint	4
CEN	180	C/C++ Language Intro	4
PHY	205	General Physics I	4

Applied Agriculture

Landscape and Ornamental Horticulture

A.A.S. Degree (O)

Horticulture relates to the production and marketing of ornamental plants. Greenhouse operations, lawn and garden services, and nursery operations are all branches of horticulture.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	125	Math for the Trades	4
or			
MAT	150	Business Mathematics	3
Select 2 course(s) from:			
POL	111	Political Science	3
PSY	100	Human Relations	3
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
AGS	101	Soil Science	3
AGS	104	Intro to Agribusiness Managemt	3
AGS	105	Prin of Plant Growth	3
AGS	123	Trfgrss Maintenance Practices	3
AGS	136	Turf Equipment Operations	3
AGS	203	Plant Identification	3
AGS	232	Horticulture Cooperative	3
AGS	243	Golf & Turf Irrigation	3
AGS	244	Landscape Plans & Construction	3
AGS	250	Greenhouse Crop Production	3
SCI	206	Pesticide Principles and Apps	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BUS	101	Introduction to Business	3
CIS	107	Intro to Computers/Application	3
OAT	152	Excel Level I	3
OAT	157	Word Level I	3
Select 1 course(s) from:			
BIO	150	Biology I	4
BIO	151	Biology II	4
CHM	100	Basic Chemistry	3
CHM	110	General Chemistry	4

Criminal Justice

Law Enforcement Option

A.A.S. Degree (O,T,S)

The Law Enforcement Option is an associate degree program designed and offered in collaboration with the Delaware State Police Training Academy. Students who elect this option will be required to pass a background check preliminarily qualifying them as potential police recruit. The student will then take a curriculum of courses based on the criminal justice associate degree appropriate to the law enforcement career path culminating in a 13-credit lecture and lab course taught by certified police instructors.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
PSY	121	General Psychology	3
SOC	111	Sociology	3
MAT	120	Math for Behavioral Sciences	3
or			
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
CRJ	101	Intro to Criminal Justice	3
CRJ	102	Criminal Law	3
CRJ	104	Drugs Society/Human Behavior	3
CRJ	105	Computer Appl in Crim./Justice	3
CRJ	115	Essntls of Intrvwng/Counslng	3
CRJ	220	Criminal Judiciary	3

CRJ	222	Constitutional Law	3
CRJ	226	Crisis Intervention	3
CRJ	237	Law Enforcement Practicum	13

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
ENG	122	Technical Writing-Comm	3
ENG	124	Oral Communications	3
HDM	202	Hmlnd Defn/Emerg Mgt 1st Rspnd	3
PSY	223	Abnormal Psychology	3
SPA	133	Using Beginning Spanish	3
or			
SPA	136	Spanish Communication I	4

Business

Management

A.A.S. Degree (O,T,W)

Business Management will prepare the graduate to handle supervisory level management positions in different types of organizational settings in all sectors of the business world. The student will gain a broad based knowledge of support fields such as accounting, law, computers and communications. You will gain knowledge and skills in specific areas of management such as resource training and development, project management, organizational behavior and strategy development.

Business Management courses are offered day and evening and most are also offered using online and other distance learning formats. The Department of Business Programs has earned national accreditation from the Association of Collegiate Business Schools and Programs (ACBSP) which sends a clear signal to potential employers that you have completed a high quality business program.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	140	Essentials of College Algebra	4
or			
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
ACC	101	Accounting I	4
ACC	112	Accounting II	4
BUS	101	Introduction to Business	3
BUS	203	Business Law	3
BUS	275	Portfolio/Experiential Lrning	3
HRM	224	Training and Development	3
MGT	212	Principles of Management	3
MGT	218	Small Business Management	3
MGT	231	Human Resource Management	3
MKT	212	Principles of Marketing	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
ENT	220	Leadership	3
MAT	255	Business Statistics I	3
ENG	122	Technical Writing-Comm	3
or			
ENG	124	Oral Communications	3
or			
ENG	160	Business Communication	3
CIS	112	Spreadsheet/Graphics Proc	3
or			
OAT	152	Excel Level I	3

Business

Marketing

A.A.S. Degree (O,T,W)

With an education in Marketing, the graduate will be prepared to work in a variety of entry-level marketing positions in different types of organizational settings in all sectors of the business world. You will gain broad-based knowledge of support fields such as accounting, law, computers and communications.

You will gain knowledge and skills in specific areas of marketing, such as advertising, e-marketing, sales and sales management, retailing and graphic design. Marketing courses are offered days and evenings and most are offered using online and other distance learning formats. The Department of Business Programs has earned national accreditation from the Association of Collegiate Business Schools and Programs (ACBSP) which sends a clear signal to potential employers that you have completed a high-quality business program.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	140	Essentials of College Algebra	4
or			
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
ACC	101	Accounting I	4
ACC	112	Accounting II	4
BUS	101	Introduction to Business	3
BUS	203	Business Law	3
BUS	275	Portfolio/Experiential Lrning	3
MGT	212	Principles of Management	3
MKT	212	Principles of Marketing	3
MKT	214	Advertising and Promotion	3
MKT	217	E-Marketing Fundamentals	3
MKT	219	Sales & Sales Management	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
MAT	255	Business Statistics I	3
OAT	242	Desktop Publishing	4
SOC	215	Business Ethics	3
ENG	122	Technical Writing-Comm	3
or			
ENG	124	Oral Communications	3
or			
ENG	160	Business Communication	3

Mechanical Engineering Technology

Mechanical Engineering Technology

A.A.S. Degree (S)

The mechanical engineering technician applies theory and principles of mechanical engineering technology to develop and test processes, equipment and mechanical systems in cooperation with an engineering staff; reviews project construction and engineering drawings to determine specifications, procedures, objectives, problems, and possible solutions; sets up and conducts tests and experiments for complete units or systems to investigate engineering theories regarding improvement in design or performance; analyzes indicated and calculated test results against design or rated specifications; records test procedures, results, and suggestions for improvement; prepares engineering drawings, charts, and graphs. The Mechanical Engineering Technology program at the Stanton Campus is accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.

CORE COURSES

Courses			Credits
MAT	181	Algebra and Trigonometry I	4
ENG	102	Composition and Research	3
ENG	101	Crit Thinking & Acad Writing	3

Select 2 course(s) from:

COM	111	Human Communications	3
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
HIS	111	U. S. History: Pre-Civil War	3
HIS	112	U. S. History: Post-Civil War	3
POL	111	Political Science	3
PSY	100	Human Relations	3
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
MET	115	Intro Mechanical Engr Tech	3
MET	123	Modern MFG Techniques	3
MET	125	Adv Manufacturing Techniques	3
MET	132	Statics	3
MET	241	Fluid Mechanics	4
MET	242	Strength of Materials	3
MET	243	Dynamics	3
MET	245	Machine Design	3
MET	252	Fluid Power	3
MET	264	Material Science	4
MET	271	Engineering Project	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
EDD	131	Engineering Graphics/CAD	3
ELC	248	Electro-Mech. Systems	4
MAT	182	Algebra and Trigonometry II	4
or			
MAT	185	Precalculus	4
PHY	205	General Physics I	4
or			
PHY	281	Physics I with Calculus	4

Allied Health

Medical Assistant

A.A.S. Degree (W)

The Medical Assistant is a multiskilled professional who works with other members of the health care team performing both clinical duties (assisting with patient care) and administrative duties (performing medical office duties.) Graduates of the program may be employed in physicians' offices, hospitals, and other health care facilities. The program consists of course work in the following: keyboarding, medical transcription, business and computer applications for the medical office, insurance coding, phlebotomy, routine diagnostic testing, performing electrocardiograms, obtaining vital signs, and assisting the physician in clinical procedures. In addition to course work and laboratory experiences on campus, students are required to complete a supervised internship in a medical facility. The Associate Degree program at

the Wilmington Campus is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) on the recommendation of the Medical Assisting Education Review Board (MAERB), a Committee on Accreditation (CoA) of CAAHEP. Commission on Accreditation of Allied Health Education Programs, 1361 Park Street Clearwater, FL 33756, (727) 210-2350.

Graduates may apply to take the certification exam given by the American Association of Medical Assistants (AAMA). Successful candidates are Certified Medical Assistants (CMA-AAMA). Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses		Credits
COM 111	Human Communications	3
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
PSY 121	General Psychology	3
MAT 153	College Math and Statistics	4
or		
MAT 155	Mathematics of Finance	3
or		
MAT 181	Algebra and Trigonometry I	4

PROGRAM/MAJOR COURSES

Courses		Credits
MEA 100	Intro to Medical Assisting	3
MEA 120	Medical Office Procedures I	4
MEA 125	Medical Office Procedures II	4
MEA 150	Medical Lab Procedures I	4
MEA 151	Medical Lab Procedures II	4
MEA 170	Pharmacology for Medical Asst	4
MEA 270	Medical Assistant Seminar	3
MEA 290	Medical Assistant Internship	4

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
BIO 100	Medical Terminology	3
BIO 110	Essentls-Anatomy & Physiology	4
CIS 107	Intro to Computers/Application	3
OAT 121	Keyboarding	4
SOC 213	Ethical Issues in Health Care	3

Allied Health

Medical Laboratory Technician

A.A.S. Degree (O)

The Medical Laboratory Technician Associate Degree program prepares the student who wishes to seek employment as a medical laboratory technician in hospital laboratories, independent laboratories, physicians' offices, community health agencies, or as a technician in research centers, pharmaceutical laboratories, biomedical laboratories, or as a quality control technician in food processing or manufacturing companies.

Students wishing to enroll in the program will be required to submit evidence of a physical examination. The program includes didactic course work on campus followed by a clinical affiliation in an approved hospital. The program is fully accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) 8410 W. Bryn Mawr Avenue, Suite 670, Chicago, IL 60631-3415, (773) 714-8880 5600 N. River Road, Suite 720, Rosemont, IL 60018, (773) 714-8880 which qualifies the graduates to take the ASCP registry examination for Medical Laboratory Technicians. Students will be required to complete the program within four calendar years. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses		Credits
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 153	College Math and Statistics	4
PSY 121	General Psychology	3
SOC 213	Ethical Issues in Health Care	3

PROGRAM/MAJOR COURSES

Courses		Credits
MLT 120	Hematology I	4
MLT 121	Hematology II	4
MLT 220	Clinical Chemistry I	4
MLT 221	Clinical Chemistry II	4
MLT 250	Clinical Microbiology I	4
MLT 251	Clinical Microbiology II	4
MLT 260	Immunology	4
MLT 261	Blood Banking	4
MLT 291	Clinical Practicum	7

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
BIO 120	Anatomy and Physiology I	5
BIO 121	Anatomy and Physiology II	5
Select 1 course(s) from:		
CHM 110	General Chemistry	4
CHM 111	Intro to Organic & Biochemstry	4

CHM 150	Chemical Principles I	5
CHM 151	Chemical Principles II	5

Visual Communications

Multimedia

A.A.S. Degree (T)

The Multimedia Design Option of the Visual Communications program is a new, innovative option that deals with visual media in non-print forms such as CD's, web pages, and interactive formats. This is a computer intensive option that seeks to blend the visual formats of still and video photography with sound and graphics to create presentations that will bring attention to a client's product or service. Students in this option are able to extend their foundation work in traditional media into the electronic realm. Emphasis will be placed on creative problem solving in addition to skill building in intermediate to advanced multimedia software. Presentations will be designed and executed in preparation for inclusion in the student's final portfolio. Graduates of the program may enter careers in corporate or institutional marketing communication departments, electronic publishing firms, or opt for further study at the baccalaureate level.

CORE COURSES

Courses		Credits
COM 111	Human Communications	3
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 150	Business Mathematics	3

PROGRAM/MAJOR COURSES

Courses		Credits
VSC 109	Drawing I	4
VSC 115	Intro To Design	3
VSC 125	Color And Composition	3
VSC 133	History of Graphic Design	2
VSC 155	Typography And Layout	3
VSC 160	Computer Graphics I	4
VSC 161	Computer Graphics II	4
VSC 165	Photography I	4
VSC 175	Print Production Processes	2
VSC 190	Intro To Videography	3
VSC 251	Portfolio Workshop	4
VSC 260	Multimedia Authoring	3
VSC 262	Computer Graphics III	4
VSC 270	Project Management	2
VSC 275	Self Promotion	2
VSC 131	Art History I	3
or		
VSC 132	Art History II	3

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
BUS 101	Introduction to Business	3
POL 111	Political Science	3
or		
PSY 121	General Psychology	3

Allied Health

Nuclear Medicine

A.A.S. Degree (W)

Nuclear Medicine is an imaging and therapeutic profession that utilizes minute traces of radioactive material in the determination of pathologic and physiologic conditions within the body. Students are trained in the proper techniques of intravenous radionuclide administrations, therapies, intricate computer applications, and detailed clinical procedures. The program is fully accredited through the Joint Review Committee on Educational Programs in Nuclear Medicine (JRCNMT) and prepares students for the national certification examination.

Students obtain clinical experience and competency at various hospitals and outpatient laboratories. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses		*Credits*
ENG 101	*Crit Thinking & Acad Writing*	*3*
ENG 102	*Composition and Research*	*3*
MAT 181	*Algebra and Trigonometry I*	*4*
PSY 121	*General Psychology*	*3*
SOC 213	*Ethical Issues in Health Care*	*3*

PROGRAM/MAJOR COURSES

Courses		*Credits*
HLH 215	*Cardiovascular Monitoring*	*2*
NMT 101	*Patient Care for the NMT*	*2*
NMT 115	*Intro to NMT with Clinical Lab*	*4*
NMT 121	*Computers & Informatics*	*2*
NMT 201	*Nuclear Medicine I*	*4*
NMT 202	*Nuclear Medicine II*	*3*
NMT 203	*Nuclear Medicine III*	*2*
NMT 211	*Scan Reading I*	*1*
NMT 212	*Scan Reading & PET/CT*	*1*
NMT 222	*Nuclear Physics*	*3*

NMT 223	*Nuclear Med Instrumentation*	*4*
NMT 224	*Radiopharmacy & Pharmacology*	*2*
NMT 226	*Radiobiology/Protection*	*2*
NMT 295	*Clinical Internship I*	*4*
NMT 296	*Clinical Internship II*	*5*
NMT 297	*Clinical Internship III w/CT*	*6*
PHY 112	*Physics for Allied Health*	*4*

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
BIO 100	*Medical Terminology*	*3*
BIO 120	*Anatomy and Physiology I*	*5*
BIO 121	*Anatomy and Physiology II*	*5*
CHM 110	*General Chemistry*	*4*
CHM 111	*Intro to Organic & Biochemstry*	*4*
MAT 135	*Biomedical Statistics*	*3*

Allied Health

Nursing

A.A.S. Degree (O,T,S)

The Associate of Applied Science nursing degree program at Delaware Technical Community College provides multiple learning opportunities through a balance of general education courses, nursing courses, and supervised clinical practice. The nursing graduate is prepared to care for individuals and families in a variety of health care settings. The graduate will function as an integral member of the healthcare team and utilize evidence-based practice that is patient centered. The graduate of the associate degree nursing program is academically eligible to take the National Council of State Boards of Nursing Licensure Examination for Registered Nurses (NCLEX-RN). The legal requirements for licensure in the State of Delaware are outlined in the Nursing Department Admissions Handbook. The associate degree nursing program provides a foundation for continuation of higher education through articulation with baccalaureate and master?s degree nursing programs. The associate degree nursing program is offered at three Delaware Tech campuses: Newark (Stanton), Dover (Terry), and Georgetown (Owens). The program can be completed in five semesters and offers an accelerated option whereby students may self-select to complete their degree sooner. Advanced placement in the program is available for Licensed Practical Nurses (LPN) who hold a current license and for nationally certified Paramedics. Academically ready students can apply for admission to the associate degree nursing program following completion of its pre-requisite requirements. Full-time students following the five semester course sheet (rapid admission process) can also apply. Admission for all applicants is competitive and completion of pre-requisites does not guarantee admission. Interested students should review the written information provided and meet with their academic advisor to discuss program and application requirements and the competitive admission process. Interested students must attend or view an online nursing information session prior to submitting an application to the program. Transfer students must also follow the transfer policy of Delaware Technical Community College. The associate degree nursing program at each campus has full approval from the Delaware Board of Nursing and is nationally accredited through Accreditation Commission for Education in Nursing (ACEN). Information about the accreditation status of the Associate Degree program is available from the Accreditation Commission for Education in Nursing, 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; (404) 975-5000;www.acenursing.org.

CORE COURSES

Courses		Credits
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 129	Math for Health Sciences	3
PSY 127	Human Development	3
SOC 111	Sociology	3

PROGRAM/MAJOR COURSES

Courses		Credits
NUR 200	Nursing Concepts III	4
NUR 201	Maternal-Child Health Concepts	4
NUR 210	Nursing Concepts IV	4
NUR 211	Community & Profess Concepts	4
HLH 130	Nurse Assistant Training	6
and		
NUR 170	Nursing Concepts I	8
and		
NUR 180	Nursing Concepts II	4
and		
NUR 181	Mental Health Concepts	4
or		
NUR 190	Nursing Transition Course	6
and		
NUR 199	Nursing Advanced Credit	8

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
BIO 120	Anatomy and Physiology I	5
BIO 121	Anatomy and Physiology II	5
BIO 125	Introductory Microbiology	4
CHM 100	Basic Chemistry	3

Allied Health

Occupational Therapy Assistant

A.A.S. Degree (O,W)

The Occupational Therapy Assistant is an individual who works under the supervision of a certified occupational therapist. The Occupational Therapy Assistant works with individuals or groups by implementing meaningful interventions which support participation in mastering everyday activities (occupations) at home, at work, at school, and in the community. For those with a disability, condition, or impairment being able to perform activities of daily living (ADL) is an important step toward a life that is as independent, productive, as satisfying as possible. The Occupational Therapy Assistant Program is designed to provide general education in the biological, behavioral, and health sciences followed by integrated occupational therapy instruction and laboratory experiences on campus and fieldwork experiences in approved facilities. The Occupational Therapy Assistant Programs at the Owens and Wilmington Campuses are accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association, Inc. (AOTA), located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220. AOTA's phone number is (301) 652-AOTA (2682). AOTA's website is: http://www.aota.org. Graduates will be able to sit for the National Certification Examination for the Occupational Therapy Assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be a Certified Occupational Therapy Assistant (COTA). Many states, including Delaware, require licensure to practice; however, that licensure is based on the results of the NBCOT Certification Exam. Level II Fieldwork (OTA 231 and OTA 232) must be completed within 18 months of the didactic course work for the OTA Program. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses		*Credits*
ENG 101	*Crit Thinking & Acad Writing*	*3*
ENG 102	*Composition and Research*	*3*
MAT 135	*Biomedical Statistics*	*3*
PSY 121	*General Psychology*	*3*
PSY 127	*Human Development*	*3*

PROGRAM/MAJOR COURSES

Courses		*Credits*
OTA 110	*Intro To Occupational Therapy*	*3*
OTA 120	*Activity Analysis*	*2*
OTA 130	*Kinesiology for the OTA*	*2*
OTA 220	*Pediatric Health Conditions*	*3*
OTA 221	*Adult & Geriatric Health Cond*	*3*
OTA 222	*Pediatric Intervention*	*4*
OTA 223	*Adult & Geriatric Intervention*	*4*
OTA 224	*Psychosocial Intervention*	*4*
OTA 225	*Clinical Fieldwork Level I-A*	*2*
OTA 226	*Clinical Fieldwork Level I-B*	*2*
OTA 229	*Professional Seminar*	*1*
OTA 231	*Clinical Fieldwork Level II-A*	*6*
OTA 232	*Clinical Fieldwork Level II-B*	*6*

PROGRAM/MAJOR SUPPORT COURSES

Courses		*Credits*
BIO 100	*Medical Terminology*	*3*
BIO 120	*Anatomy and Physiology I*	*5*
BIO 121	*Anatomy and Physiology II*	*5*
BIO 123	*Clinical Functional Anatomy*	*3*
PSY 223	*Abnormal Psychology*	*3*

Office Administration

Office Administration

A.A.S. Degree (O)

The Office Administration program offers a flexible program leading to the Associate Degree in Applied Science. While software applications and office administration skills are the foundation of this program, the course elective structure allows students the opportunity to acquire a broad base of business and computer skills to enhance upward mobility. Software certification opportunities are available.

CORE COURSES

Courses		Credits
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 140	Essentials of College Algebra	4
or		
MAT 153	College Math and Statistics	4
ECO 111	Macroeconomics	3
or		
ECO 122	Microeconomics	3
Select 1 course(s) from:		
COM 111	Human Communications	3
SPA 133	Using Beginning Spanish	3
SPA 136	Spanish Communication I	4

PROGRAM/MAJOR COURSES

Courses		Credits
OAT 121	Keyboarding	4
OAT 122	Keyboarding Applications	4
OAT 151	Access Level I	3
OAT 152	Excel Level I	3

OAT 157	Word Level I	3
OAT 158	Word Level II	3
OAT 159	PowerPoint	3
OAT 240	Integrated Business Applicatns	3
OAT 242	Desktop Publishing	4

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
BUS 101	Introduction to Business	3
BUS 275	Portfolio/Experiential Lrning	3
ENG 124	Oral Communications	3
ACC 100	Introduction to Accounting	3
or		
ACC 101	Accounting I	4
Select 1 course(s) from:		
ACC 112	Accounting II	4
CIS 125	Window Based Operating Systems	4
MKT 212	Principles of Marketing	3
MKT 214	Advertising and Promotion	3
PSY 121	General Psychology	3
SOC 111	Sociology	3
SOC 215	Business Ethics	3
SPA 137	Spanish Communication II	4

Operations Management

Operations Management

A.A.S. Degree (W)

Combining principles of engineering and business, the Operations Management program prepares the graduate to observe measure, analyze, determine, and recommend operations improvements in industry, business, government, and health services. A broad foundation in both technical and non-technical areas provides graduates with a sound working approach to the human as well as the technological aspects of the problems they will be called upon to solve. Upon graduation, the student is prepared to aid in the design, improvement, installation, and operation of integrated systems of people, materials, and equipment.

CORE COURSES

Courses		Credits
ECO 111	Macroeconomics	3
ECO 122	Microeconomics	3
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 153	College Math and Statistics	4
or		
MAT 140	Essentials of College Algebra	4

PROGRAM/MAJOR COURSES

Courses		Credits
MGT 231	Human Resource Management	3
OMT 100	Operations Management	4
OMT 210	Project Based Accounting	3
OMT 220	Process Analysis & Control	3
OMT 230	Project Management	3
OMT 240	Supply Chain Management	3
OMT 250	Statistical Process Control	3
OMT 260	Quality Management	4
OMT 270	Process Design & Layout	4

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
BUS 101	Introduction to Business	3
CIS 107	Intro to Computers/Application	3
MAT 255	Business Statistics I	3
MIS 220	Management Information Systems	3
CIS 112	Spreadsheet/Graphics Proc	3
or		
OAT 152	Excel Level I	3

Education

Paraeducator

A.A.S. Degree (O,T,W)

This associate degree program prepares students for a career as a paraeducator in a K-12 school setting. The program provides a foundation in academic skills, child development theories, literacy and mathematics instructional support strategies and a comprehensive range of educational experiences necessary for employment. The program will provide coursework that may transfer to a senior institution for those students who wish to do so.

CORE COURSES

Courses		Credits
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
HIS 112	U. S. History: Post-Civil War	3
MAT 201	Mathematics for Teachers I	4
SOC 111	Sociology	3

PROGRAM/MAJOR COURSES

Courses		Credits
CIS 107	Intro to Computers/Application	3
ECE 111	Childhd Nutrition/Safety	3
EDC 101	Intro to Paraeducator Issues	3
EDC 120	Foundations of Literacy	3
EDC 211	Classroom Management	3
EDC 220	Parent/Family/School Interact	3
EDC 230	Children's Literature	3
EDC 250	Internship & Seminar	4
MAT 202	Mathematics for Teachers II	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
ECE	233	Exceptional Child	3
PSY	121	General Psychology	3
PSY	126	Child/Adolescent Development	3
BIO	140	General Biology	4
or			
BIO	150	Biology I	4
ENG	124	Oral Communications	3
or			
ENG	131	Honors Oral Communication	3

Paralegal

Paralegal

A.A.S. Degree (O,T)

According to the U.S. Bureau of Labor Statistics, the paralegal field is one of the fastest growing professions. To prepare graduates to meet this demand, this program offers a combination of specialized legal courses and general education courses with emphasis on the development of highly marketable skills. A legal internship provides work experience to supplement classroom knowledge and applications. Diversified employment opportunities are available in federal, state and local government agencies, law firms, the court system, banks, insurance companies, private business, and corporations. Upon completion of the degree, students will have gained the following competencies: 1) Explain the present and potential role of the paralegal within the legal system; 2) Produce the documents necessary for a functioning law office; 3) Comply with the profession's Code of Ethics within the legal system; 4) Use a range of research methods and information necessary to complete a variety of legal activities; 5) Apply acquired knowledge of legal specialty areas in the workplace. Paralegals may not provide legal services directly to the public except as provided by law.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	153	College Math and Statistics	4
PSY	121	General Psychology	3

PROGRAM/MAJOR COURSES

Courses			Credits
PLG	170	Intro to the Legal System	3
PLG	280	Legal Research & Writing	3
PLG	290	Paralegal Internship	4
Select 7 course(s) from:			
PLG	160	Family Law	3
PLG	172	Law of Simple Contracts	3
PLG	175	Estate Admin and Probate	3
PLG	270	Criminal Law/Invest Procedures	3
PLG	271	Real Property Law	3
PLG	273	Civil Procedure	3
PLG	274	Torts	3
PLG	276	Business Entities	3
PLG	285	Law Office Mgmt & Procedures	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BUS	275	Portfolio/Experiential Lrning	3
ENG	124	Oral Communications	3
OAT	121	Keyboarding	4
ACC	100	Introduction to Accounting	3
or			
ACC	101	Accounting I	4
Select 1 course(s) from:			
ACC	162	Computerized Accounting	3
CLT	110	Cross-Cultural Immersion	3
OAT	151	Access Level I	3
OAT	152	Excel Level I	3
OAT	157	Word Level I	3
OAT	158	Word Level II	3
OAT	159	PowerPoint	3
OAT	240	Integrated Business Applicatns	3
OAT	281	Legal Research and Writing II	3
SPA	133	Using Beginning Spanish	3
SPA	136	Spanish Communication I	4

Visual Communications

Photo Imaging

A.A.S. Degree (T)

The Photo Imaging Option of the Visual Communications program is an exciting 21st century blend of traditional photographic processes and computer-based digital photography. This new technology mixes the aesthetics of fine art photography with the speed and flexibility of digital imaging. It is an exciting field with tremendous potential for artistic as well as commercial creativity. The sophistication of imagery from the computer allows designers and photographers to expand the limits of traditional photography. Students will utilize traditional photography, scanned images, and direct digital images to prepare solutions to realistic assignments. All assignments are geared toward the compilation of a final graduate portfolio. Graduates can look forward to being on the cutting edge of this exciting new technology. As the use of the web and other multimedia formats increases, the demand for skilled digital imaging professionals will continue to rise.

CORE COURSES

Courses		Credits
COM 111	Human Communications	3
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 150	Business Mathematics	3

PROGRAM/MAJOR COURSES

Courses		Credits
VSC 115	Intro To Design	3
VSC 125	Color And Composition	3
VSC 133	History of Graphic Design	2
VSC 160	Computer Graphics I	4
VSC 161	Computer Graphics II	4
VSC 165	Photography I	4
VSC 166	Photography II	3
VSC 175	Print Production Processes	2
VSC 190	Intro To Videography	3
VSC 251	Portfolio Workshop	4
VSC 267	Color Photography	4
VSC 268	Photo Illustration	3
VSC 270	Project Management	2
VSC 275	Self Promotion	2
VSC 131	Art History I	3
or		
VSC 132	Art History II	3

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
BUS 101	Introduction to Business	3
POL 111	Political Science	3
or		
PSY 121	General Psychology	3
Select 1 course(s) from:		
VSC 109	Drawing I	4
VSC 135	Non-Western Art Survey	3
VSC 181	CorelDraw	4
VSC 186	Advanced Painting	3
VSC 260	Multimedia Authoring	3
VSC 261	Multimedia Sound	3
VSC 264	3-D Design and Animation	4
VSC 265	Motion Graphics	3
VSC 281	Project Elective	3
VSC 292	Video Production	4

Allied Health

Physical Therapist Assistant

A.A.S. Degree (O,W)

Physical Therapist Assistants are licensed health care workers who provide physical therapy services under the supervision and direction of the physical therapist. They assist with data collection, implement delegated patient interventions, modify interventions within the established plan of care, participate in discharge planning and follow-up care, document the care provided, and educate and interact with health care team members including families, caregivers, students and patients. Students study both on campus and at varied clinical sites. Graduates of the program may be employed by hospitals, rehabilitation centers, private practice clinics, home health agencies, and other health care settings. The Physical Therapist Assistant programs at the Wilmington Campus and the Owens Campus are accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 N. Fairfax Street, Alexandria, VA 22314-1488, (703) 706-3245, email: accreditation@apta.org; website: www.capteonline.org. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses		*Credits*
ENG 101	*Crit Thinking & Acad Writing*	*3*
ENG 102	*Composition and Research*	*3*
MAT 153	*College Math and Statistics*	*4*
PSY 121	*General Psychology*	*3*
SOC 213	*Ethical Issues in Health Care*	*3*

PROGRAM/MAJOR COURSES

Courses		*Credits*
PTA 100	*Introduction to PTA*	*2*
PTA 101	*Basic Techniques*	*4*
PTA 102	*Modalities*	*3*
PTA 115	*Kinesiology*	*3*
PTA 116	*Intro to Pathology*	*3*
PTA 205	*Path.Treatmnt Orthopedic Conds*	*4*
PTA 206	*Path/Treat Neurolgcl Conds.*	*4*
PTA 208	*Special Topics for the PTA*	*3*
PTA 209	*PTA Management Issues*	*2*
PTA 211	*Clinical Practice I*	*4*
PTA 212	*Clinical Practice II*	*3*
PTA 213	*Clinical Practice III*	*4*

PROGRAM/MAJOR SUPPORT COURSES

Courses		*Credits*
BIO 100	*Medical Terminology*	*3*
BIO 120	*Anatomy and Physiology I*	*5*
BIO 121	*Anatomy and Physiology II*	*5*
BIO 123	*Clinical Functional Anatomy*	*3*
PHY 110	*Physics Physical Therapy Assnt*	*4*
or		
PHY 171	*Physics I*	*4*
or		
PHY 205	*General Physics I*	*4*

Applied Agriculture

Production Agriculture

A.A.S. Degree (O)

The Production Agriculture option involves the growing and marketing of crops and livestock. A thorough knowledge of marketing, management, and finance as well as production skills are the keys to a career as an agriculture producer.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	125	Math for the Trades	4
or			
MAT	150	Business Mathematics	3
or			
MAT	153	College Math and Statistics	4
Select 2 course(s) from:			
POL	111	Political Science	3
PSY	100	Human Relations	3
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
AGS	101	Soil Science	3
AGS	102	Agricultural Science	3
AGS	104	Intro to Agribusiness Managemt	3
AGS	105	Prin of Plant Growth	3
AGS	106	Vegetable Crop Production	3
AGS	202	Agronomic Crops	3
AGS	204	Animal Science	3
AGS	230	Production Agriculture Co-op	3
AGS	240	Hydroponics Production	3
AGS	250	Greenhouse Crop Production	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
FSY	100	Introduction to Food Safety	3
POS	215	Poultry Production Management	3
SCI	206	Pesticide Principles and Apps	3
SCI	223	Applied Ecology	3
CIS	107	Intro to Computers/Application	3
or			
OAT	152	Excel Level I	3
or			
OAT	157	Word Level I	3
Select 1 course(s) from:			
BIO	150	Biology I	4
BIO	151	Biology II	4
CHM	100	Basic Chemistry	3
CHM	110	General Chemistry	4

Allied Health

Radiologic Technology

A.A.S. Degree (O,W)

Radiologic Technology is the art and science of using x-rays to produce images of the organs, bones, tissues and vessels of the human body. Students in this technology are educated in utilizing x-ray equipment and techniques, proper patient positioning, radiation protection methodologies, and quality patient care. As a member of the medical imaging team, the radiologic technologist produces quality, diagnostic images that are interpreted by radiologists -- physicians who specialize in medical imaging. The programs are accredited by the Joint Review Committee on Education in Radiologic Technology (www.jrcert.org). Graduation from an accredited program in Radiologic Technology ensures eligibility to sit for the certification examination administered by the American Registry of Radiologic Technologists (ARRT). In conjunction with related and technology didactic courses, students apply their knowledge during integrated clinical experiences in area radiology departments. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	153	College Math and Statistics	4
PSY	121	General Psychology	3
SOC	213	Ethical Issues in Health Care	3

PROGRAM/MAJOR COURSES

Courses			Credits
RAD	105	Intro Patient Care/Radiography	3
RAD	130	Radiographic Procedures I	4
RAD	131	Radiographic Procedures II	4
RAD	140	Prin Radiographic Imaging I	3
RAD	141	Prin Radiographic Imaging II	3
RAD	150	Radiation Protection/Biology	2
RAD	160	Clinical Radiography I	3
RAD	161	Clinical Radiography II	3
RAD	162	Clinical Radiography III	5
RAD	222	Selected Topics in Radiography	3
RAD	230	Radiographic Procedures III	3
RAD	240	Radiographic Imaging Equipment	3
RAD	250	Radiographic Pathology	2
RAD	260	Clinical Radiography IV	5
RAD	261	Clinical Radiography V	5
RAD	270	Digital Image Acquistn/Display	2

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	100	Medical Terminology	3
BIO	120	Anatomy and Physiology I	5
BIO	121	Anatomy and Physiology II	5
CHM	110	General Chemistry	4

Refrigeration, Heating, & Air Conditioning

Refrigeration, Heating, & Air Conditioning

A.A.S. Degree (O)

This program offers the opportunity to develop skills leading to the award of an A.A.S. Degree in Refrigeration, Heating, and Air Conditioning. The curriculum is designed to provide the student with practical and theoretical knowledge of refrigeration, heating, and air conditioning systems. The technical courses combine classroom theory with practical, hands-on training. Related courses are intended to prepare students for professional and technical career opportunities. The degree is awarded to students who complete all required technical and related courses. Diploma and Certificate options are available.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	125	Math for the Trades	4
or			
MAT	150	Business Mathematics	3
PSY	100	Human Relations	3
or			
PSY	121	General Psychology	3

PROGRAM/MAJOR COURSES

Courses			Credits
ACR	101	HVAC Electricity	5
ACR	102	Fundamentals of Refrigeration	5
ACR	104	Residential Climate Control	5
ACR	105	Residential Heating I	5
ACR	114	EPA Seminar and Exam	1
ACR	115	Air Distribution & Balancing	3
ACR	120	Employee Development Seminar	2
ACR	150	Industry Competency Exam I	1
ACR	151	Industry Competency Exam II	1
ACR	202	Commercial Refrigeration	3
ACR	204	Residential Heating II	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
AET	111	Constr Blueprint Reading	4
AET	236	Building Service Systems	3
NRG	101	Intro to Energy Management	3
NRG	110	Construction Standards	2
SOC	103	Sustainability and Society	3
CIS	107	Intro to Computers/Application	3
or			
OAT	152	Excel Level I	3

Energy

Renewable Energy Solar

A.A.S. Degree (O,T,S)

The Renewable Energy Solar Program prepares graduates to work as technicians in the renewable energy industry. Students will develop energy analysis skills to improve energy efficiency and application of renewable energy solar systems. Students will learn solar photovoltaic installation and design and solar thermal applications. They will evaluate and recommend energy solutions with greater efficiency and lower environmental impact with the added benefit of energy cost savings. The focus on renewable energy solar will be integrated with applied practice related to solar photovoltaic and thermal installation. Students will study and work with both grid-tied and stand-alone photovoltaic systems. Academically ready students can apply to the program following the guidelines of each location's wait-list process. Interested applicants should review the information provided here and contact their program advisor for program requirements.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	140	Essentials of College Algebra	4
SOC	103	Sustainability and Society	3
Select 1 course(s) from:			
COM	111	Human Communications	3
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
PSY	100	Human Relations	3
PSY	121	General Psychology	3

PROGRAM/MAJOR COURSES

Courses			Credits
NRG	101	Intro to Energy Management	3
NRG	110	Construction Standards	2
NRG	111	Res/Light Comm Energy Analysis	2

NRG 124	Energy Efficient Methods	3
NRG 142	Energy Accounting	2
NRG 154	Alternativ Energy Technologies	2
NRG 200	Solar Energy Systems	2
NRG 201	Photovoltaic Systems I	4
NRG 202	Photovoltaic Systems II	3
NRG 203	Cncpts of Solar Thermal Design	3
NRG 204	Coop Ed:Renewable Energy Solar	3
NRG 207	NABCEP Solar Entry Level Prep	1
NRG 241	Energy Investment Analysis	2

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
ACR 121	HVAC Energy Systems	3
ELC 125	Electrical Circuits I	4
OAT 152	Excel Level I	3
PHY 111	Conceptual Physics	4
AET 111	Constr Blueprint Reading	4
or		
AET 123	Arch Drafting/Design I	4

Allied Health

Respiratory Care

A.A.S. Degree (O,W)

Respiratory Care is an allied health specialty involved in the treatment, management, and diagnostic evaluation of patients with problems of the cardiopulmonary system. Respiratory Care is one of the most dynamic allied health fields, undergoing a continuous process of discovery and improvement in both therapeutic techniques and related modes of mechanical assistance. The Wilmington and Owens Campus programs are accredited by the Commission on Accreditation for Respiratory Care (CoARC), 1248 Harwood Road, Bedford, TX 76021-4244, (817) 283-2835, and prepare students for the National Board for Respiratory Care (NBRC) Entry Level and Advanced Practice Examinations. Courses are offered on campus and at a variety of clinical affiliates. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses		*Credits*
ENG 101	*Crit Thinking & Acad Writing*	*3*
ENG 102	*Composition and Research*	*3*
MAT 153	*College Math and Statistics*	*4*
PSY 121	*General Psychology*	*3*
SOC 213	*Ethical Issues in Health Care*	*3*

PROGRAM/MAJOR COURSES

Courses		*Credits*
RCT 120	*Pharm for Respiratory Care*	*3*
RCT 130	*Intro to Respiratory Care*	*7*
RCT 140	*Pulmonary Physiology*	*3*
RCT 210	*Neonatal/Ped Respiratory Care*	*3*
RCT 231	*Respiratory Care Procedures I*	*4*
RCT 232	*Respiratory Care Procedures II*	*7*
RCT 233	*Spec Topics in Respratory Care*	*4*
RCT 241	*Pulmonary Pathophysiology I*	*3*
RCT 242	*Pulmonary Pathophysiology II*	*4*
RCT 243	*Pulmonary Function Studies*	*2*
RCT 251	*Clinical Respiratory Care I*	*2*
RCT 252	*Clinical Respiratory Care II*	*3*
RCT 253	*Clinical Respiratory Care III*	*5*

PROGRAM/MAJOR SUPPORT COURSES

Courses		*Credits*
BIO 120	*Anatomy and Physiology I*	*5*
BIO 121	*Anatomy and Physiology II*	*5*
CHM 110	*General Chemistry*	*4*
HLH 101	*Intro To Patient Care*	*2*
HLH 215	*Cardiovascular Monitoring*	*2*

Allied Health

Surgical Technology

A.A.S. Degree (T)

The Surgical Technology program will help to meet the employment demands for highly skilled surgical technologists. The program will provide students with the knowledge and skills required to function effectively in the environment of the operating room. The scrub surgical technologist handles the instruments, supplies, and equipment necessary during the surgical procedure. He/she has an understanding of the procedure being performed and anticipates the needs of the surgeon. He/she has the necessary knowledge and ability to ensure quality patient care during the operative procedure and is constantly on vigil for maintenance of the sterile field. The surgical technologist circulating obtains additional instruments, supplies, and equipment necessary while the surgical procedure is in progress. He/she monitors conditions in the operating room and constantly assesses the needs of the patient and surgical team. The Surgical Technology program is accredited by the Commission on Accreditation of Allied Health Education Programs upon the recommendation of Committee on American College of Surgeons and Association of Surgical Technologists (ARC/STSA); 1361 Park Street; Clearwater, FL 33756; 727-210-2350; www.caahep.org. Academically ready students can apply to the program following the

guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
PSY	121	General Psychology	3
MAT	130	Algebra for Allied Health	4
or			
MAT	129	Math for Health Sciences	3
or			
MAT	140	Essentials of College Algebra	4
SOC	111	Sociology	3
or			
SOC	213	Ethical Issues in Health Care	3

PROGRAM/MAJOR COURSES

Courses			Credits
SGT	100	Intro to Surgical Technology	2
SGT	200	Surgical Technology I	7
SGT	202	Pharmacology	2
SGT	210	Surgical Technology II	7
SGT	211	Surgical Tech Clinical I	2
SGT	220	Surgical Technology III	4
SGT	221	Surgical Technolgy Clinical II	5

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	100	Medical Terminology	3
BIO	120	Anatomy and Physiology I	5
BIO	121	Anatomy and Physiology II	5
BIO	125	Introductory Microbiology	4
CIS	107	Intro to Computers/Application	3
CHM	100	Basic Chemistry	3
or			
CHM	110	General Chemistry	4

Civil Engineering Technology

Surveying and Geomatics Engineering Technology

A.A.S. Degree (O,S)

This program option will prepare graduates with the technical skills necessary to enter careers in boundary and/or land surveying, geographic and/or land information systems, engineering project surveying, mapping and geodesy, or other related areas. This curriculum Option emphasizes practical applications in the areas of field mapping, interpretation of basic land records and the preparation of maps and plats. Students will learn on modern surveying equipment including total stations, static and kinematic GPS. The use of computers for CAD, data acquisition and analysis is integrated throughout the program preparing graduates for immediate productivity in the profession.

The State of Delaware recognizes the Civil Engineering Technology, Surveying and Geomatics Option as part of the pathway to licensure as a professional land surveyor.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	181	Algebra and Trigonometry I	4
or			
MAT	281	Calculus I	4
Select 2 course(s) from:			
CLT	110	Cross-Cultural Immersion	3
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
HIS	111	U. S. History: Pre-Civil War	3
HIS	112	U. S. History: Post-Civil War	3
POL	111	Political Science	3
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
CET	125	Civil & Envl Drafting & Design	4
CET	135	Engineering Materials	3
CET	144	Surveying Principles	4
CET	225	Civil CAD Applications	3
CET	236	Soils	3
CET	240	Hydraulics and Hydrology	4
CET	244	Principles of Site Development	4
CET	245	Advanced Surveying Principles	4
CET	247	Route Surveying and Design	3
CET	248	Boundary Surveying and Law	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
AET	232	Contracts/Specifications	3
CMT	234	Cost Estimating/Planning	3
EDD	171	Intro to CAD Using AutoCAD	3
PHY	205	General Physics I	4
or			
PHY	281	Physics I with Calculus	4
MAT	182	Algebra and Trigonometry II	4
or			
MAT	185	Precalculus	4
or			
MAT	282	Calculus II	4

Applied Agriculture

Turf Management

A.A.S. Degree (O)

The Turf Management Degree program is designed to provide skills necessary for an individual to attain gainful employment in the turf management industry. The curriculum provides course study for the field of golf course management and professional turf management specialist. The curriculum will prepare the students for careers as golf and turf management technicians, assistant golf course superintendents, assistant equipment managers, horticulturist, irrigation specialist chemical technician, equipment operator and groundskeeper.

Note: Students will be required to take certain course at the Owens Campus Turf Grass Lab

CORE COURSES

Courses		Credits
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 125	Math for the Trades	4
or		
MAT 150	Business Mathematics	3
Select 2 course(s) from:		
POL 111	Political Science	3
PSY 100	Human Relations	3
PSY 121	General Psychology	3
SOC 111	Sociology	3

PROGRAM/MAJOR COURSES

Courses		Credits
AGS 101	Soil Science	3
AGS 104	Intro to Agribusiness Managemt	3
AGS 105	Prin of Plant Growth	3
AGS 123	Trfgrss Maintenance Practices	3
AGS 136	Turf Equipment Operations	3
AGS 224	Turf & Athletic Fld Maintenanc	3
AGS 231	Turfgrss Mgt. Co-op Education	3
AGS 241	Trfgrss Wds Insts/Disease Ctrl	3
AGS 242	Golf Course Operation & Maint	3
AGS 243	Golf & Turf Irrigation	3
AGS 244	Landscape Plans & Construction	3

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
CIS 107	Intro to Computers/Application	3
OAT 157	Word Level I	3
SCI 223	Applied Ecology	3
SCI 240	Turfgrass Physiology	3
CHM 100	Basic Chemistry	3
or		
CHM 110	General Chemistry	4

Allied Health

Veterinary Technology

A.A.S. Degree (O)

The Veterinary Technology Associate Degree program provides students with the theoretical and technical skills essential for a wide-range of career options in animal health and management. The curriculum is designed to prepare students for careers as veterinary technicians and for positions in animal hospitals, diagnostic laboratories, research laboratories, animal health industry, zoological parks, and emergency/specialty clinics. The program focuses on the development of laboratory testing techniques, clinical assisting procedures, humane animal care and nursing skills, and hospital management practices. In addition to course work and laboratory experience, students are required to complete one supervised externship at a variety of animal care facilities. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses		Credits
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 153	College Math and Statistics	4
Select 2 course(s) from:		
ECO 111	Macroeconomics	3
ECO 122	Microeconomics	3
HIS 111	U. S. History: Pre-Civil War	3
PSY 100	Human Relations	3
PSY 121	General Psychology	3
PSY 127	Human Development	3
PSY 223	Abnormal Psychology	3
SOC 111	Sociology	3
SOC 213	Ethical Issues in Health Care	3

PROGRAM/MAJOR COURSES

Courses		Credits
VET 101	Intro to Veterinary Technology	2
VET 102	Veterinary Anatomy	3
VET 110	Veterinary Physiology	3
VET 120	Breeds And Behavior	2
VET 140	Pharmacology for Vet Techs	3
VET 145	Exotic Animal Care and Mgmt	1
VET 205	Small Animal Health & Disease	3
VET 210	Veterinary Clinical Pathology	3
VET 221	Veterinary Nursing I	3
VET 222	Veterinary Nursing II	3
VET 224	Lg Animal/Equine Nurs/Hlth Mgt	4
VET 230	Research Animal Technology	3

VET	235	Diagnostic Imaging	3
VET	250	Vet Tech Internship	5

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
MLT	130	Hematology for the Vet Tech	4
BIO	125	Introductory Microbiology	4
or			
BIO	250	Principles of Microbiology	4
BIO	150	Biology I	4
or			
BIO	140	General Biology	4
CHM	110	General Chemistry	4
or			
CHM	100	Basic Chemistry	3

CAMPUS KEY: T = Dover; O = Georgetown; S = Stanton; W = Wilmington

Web Information Systems

Program	Campus
Early Care and Education (Birth to Second Grade)	O,T,W
Elementary Education	O,T,W
Math Secondary Education	O,S,T
Middle-Level Mathematics Education: English Minor	O,T,W
Middle-Level Mathematics Education: Social Science Minor	O,T,W
Middle-Level Mathematics Education: Science Minor	O,T,W
Science Education: Chemistry/Physics	O,T,S

Web Development

A.A.S. Degree (OET)

The Computer Information Systems Department offers the Web Development degree. Students with an interest in the development, implementation and management of electronic business operations provided online. This program is designed to provide students with a background in the computer applications needed to assist a company wishing to conduct business using the Internet and the World Wide Web. The students acquire knowledge of basic programming, Web construction, interactive Web sites and Internet scripts. Students will be prepared to: create safe and secure networks for businesses having an online presence, to become Web masters capable of building Web sites, and to become technology strategists able to maximize visits to client's sites.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ECO	122	Microeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	153	College Math and Statistics	4

PROGRAM/MAJOR COURSES

Courses			Credits
CIS	141	Operating Systems I	3
CIS	160	Internet/Web Construction	3
CIS	170	Internet/Web Multimedia	3
CIS	194	Networking Technologies	3
CIS	201	Microdatabase Programming	3
CIS	207	Visual Programming	4
CIS	238	Database Design & Programming	4
CIS	240	Systems Analysis & Design	3
CIS	260	Internet/Web Commerce	4
CIS	282	Topics in Programming Language	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BUS	101	Introduction to Business	3
CIS	111	Ethics and the Information Age	2
CIS	120	Intro to Programming	4
EBZ	220	Fundamentals of E-Commerce	3
MKT	212	Principles of Marketing	3

Associate of Arts in Teaching Degree Programs (A.A.T.)

Early Childhood Education

Early Care and Education (Birth to Second Grade)

A.A.T. Degree (O,T,W)

The Birth to Second Grade Option combines the Early Childhood Development curriculum with a student transfer focus. The program prepares students for transfer to a four-year in-state institutions to complete requirements for a bachelor's degree and early care/education (Birth to Second Grade). The Birth to Second Grade Option is approved by the Department of Education as the first half of an associate/bachelor's preparation for a Birth to Second Grade teaching certification. This program offers full articulation with several four-year institutions. Students participate in laboratory hours in public and private school systems. This curriculum option offers students the opportunity to work toward a four-year degree while preparing for the various positions in the field of early childhood.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	201	Mathematics for Teachers I	4
PSY	121	General Psychology	3
PSY	125	Child Development	3

PROGRAM/MAJOR COURSES

Courses			Credits
ECE	120	Comtemp Issues in Erly Childhd	3
ECE	121	Infant & Toddler Methods & Lab	5
ECE	123	Early Childhd Methods I & Lab	5
ECE	125	Early Childhd Methods II & Lab	5
ECE	127	Childhood Classroom Mgt	3
ECE	226	Assessment of Young Children	3
ECE	233	Exceptional Child	3
EDC	120	Foundations of Literacy	3
EDC	220	Parent/Family/School Interact	3
EDC	230	Children's Literature	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
ECE	111	Childhd Nutrition/Safety	3
HIS	111	U. S. History: Pre-Civil War	3
MAT	202	Mathematics for Teachers II	4
MAT	203	Math for Teachers III	4
BIO	140	General Biology	4
or			
BIO	150	Biology I	4

Education

Elementary Education

A.A.T. Degree (O,T,W)

Graduates of this option may enter the workforce immediately as a paraeducator in a school setting or they may choose to continue their education. The main focus of this education option is to prepare students to transfer to a four-year college or university where they will complete their bachelor's degree and become certified to teach elementary school. The program provides a foundation in academic skills, child development theory, literacy and mathematics and classroom management strategies. During the required education courses in this option, students are exposed to the teaching profession through a variety of field experiences.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	201	Mathematics for Teachers I	4
PSY	121	General Psychology	3
PSY	125	Child Development	3
or			
PSY	126	Child/Adolescent Development	3
HIS	111	U. S. History: Pre-Civil War	3
or			
HIS	112	U. S. History: Post-Civil War	3

PROGRAM/MAJOR COURSES

Courses			Credits
CHM	101	Introduction to Chemistry	1
CIS	107	Intro to Computers/Application	3
ECE	233	Exceptional Child	3
EDC	120	Foundations of Literacy	3
EDC	150	Issues in Elementary Education	3
EDC	211	Classroom Management	3
EDC	220	Parent/Family/School Interact	3
EDC	230	Children's Literature	3
MAT	202	Mathematics for Teachers II	4
MAT	203	Math for Teachers III	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	140	General Biology	4
PHY	111	Conceptual Physics	4
SPA	136	Spanish Communication I	4
ENG	124	Oral Communications	3
or			
ENG	131	Honors Oral Communication	3
VSC	131	Art History I	3
or			
VSC	132	Art History II	3

SPA	137	Spanish Communication II	4
or			
ECO	111	Macroeconomics	3

Education

Math Secondary Education

A.A.T. Degree (O,S,T)

This associate degree program will prepare students for transfer to a baccalaureate degree program that leads to a teaching career in middle or high school mathematics. The program includes rigorous mathematics content course work, as well as the integration of educational technology and field experiences in a secondary school setting.

Graduates of this program who have completed the associate degree with a cumulative GPA of 2.5 or higher can transfer to the University of Delaware or Delaware State University.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	281	Calculus I	4
PSY	121	General Psychology	3
HIS	111	U. S. History: Pre-Civil War	3
or			
HIS	112	U. S. History: Post-Civil War	3

PROGRAM/MAJOR COURSES

Courses			Credits
ECE	233	Exceptional Child	3
EDC	260	Educational Psychology	3
MAT	263	Principles of Discrete Math	4
MAT	279	Problem Solving Strategies	4
MAT	282	Calculus II	4
MAT	283	Calculus III	4
MAT	285	Introduction to Proof	4
MAT	288	Linear Algebra	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	120	Intro to Programming	4
PHY	281	Physics I with Calculus	4
PSY	127	Human Development	3
SPA	136	Spanish Communication I	4

Education

Middle-Level Mathematics Education: English Minor

A.A.T. Degree (O,T,W)

The main focus of the Middle-Level Mathematics Education program is to provide students with a strong mathematical background that emphasizes the conceptual underpinnings of the mathematics the students will eventually teach. In order to enter the workforce, students will be required to complete a bachelor's degree with a partner university.

Students pursuing the Middle- Level Mathematics Education degree will major in mathematics and choose one of three minors: Science, Social Science or English. The minors enable students to become dually certified in mathematics and their minor field. The major/minor structure for middle school education is the focus of our partner, Wilmington University, and the course sequence sheets were designed to support and guide students based on their desired minor preference.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	201	Mathematics for Teachers I	4
PSY	121	General Psychology	3

PROGRAM/MAJOR COURSES

Courses			Credits
ECE	233	Exceptional Child	3
MAT	140	Essentials of College Algebra	4
MAT	143	College Geometry	3
MAT	185	Precalculus	4
MAT	251	Finite Math	3
MAT	253	Discrete Math	3
MAT	255	Business Statistics I	3
MAT	281	Calculus I	4
MAT	282	Calculus II	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	140	General Biology	4
CIS	107	Intro to Computers/Application	3
EDC	120	Foundations of Literacy	3
EDC	220	Parent/Family/School Interact	3
EDC	230	Children's Literature	3
PSY	125	Child Development	3
ENG	124	Oral Communications	3
or			
ENG	131	Honors Oral Communication	3

Education

Middle-Level Mathematics Education:

Science Minor

A.A.T. Degree (O,T,W)

The main focus of the Middle-Level Mathematics Education program is to provide students with a strong mathematical background that emphasizes the conceptual underpinnings of the mathematics the students will eventually teach. In order to enter the workforce, students will be required to complete a bachelor's degree with a partner university.

Students pursuing the Middle- Level Mathematics Education degree will major in mathematics and choose one of three minors: Science, Social Science or English. The minors enable students to become dually certified in mathematics and their minor field. The major/minor structure for middle school education is the focus of our partner, Wilmington University, and the course sequence sheets were designed to support and guide students based on their desired minor preference.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	201	Mathematics for Teachers I	4
PSY	121	General Psychology	3

PROGRAM/MAJOR COURSES

Courses			Credits
ECE	233	Exceptional Child	3
MAT	140	Essentials of College Algebra	4
MAT	143	College Geometry	3
MAT	185	Precalculus	4
MAT	251	Finite Math	3
MAT	253	Discrete Math	3
MAT	255	Business Statistics I	3
MAT	281	Calculus I	4
MAT	282	Calculus II	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	140	General Biology	4
CIS	107	Intro to Computers/Application	3
EDC	220	Parent/Family/School Interact	3
PHY	205	General Physics I	4
PSY	125	Child Development	3
ENG	124	Oral Communications	3
or			
ENG	131	Honors Oral Communication	3

Education

Middle-Level Mathematics Education:

Social Science Minor

A.A.T. Degree (O,T,W)

The main focus of the Middle-Level Mathematics Education program is to provide students with a strong mathematical background that emphasizes the conceptual underpinnings of the mathematics the students will eventually teach. In order to enter the workforce, students will be required to complete a bachelor's degree with a partner university.

Students pursuing the Middle- Level Mathematics Education degree will major in mathematics and choose one of three minors: Science, Social Science or English. The minors enable students to become dually certified in mathematics and their minor field. The major/minor structure for middle school education is the focus of our partner, Wilmington University, and the course sequence sheets were designed to support and guide students based on their desired minor preference.

CORE COURSES

Courses			Credits
ECO	111	Macroeconomics	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	201	Mathematics for Teachers I	4
PSY	121	General Psychology	3

PROGRAM/MAJOR COURSES

Courses			Credits
ECE	233	Exceptional Child	3
MAT	140	Essentials of College Algebra	4
MAT	143	College Geometry	3
MAT	185	Precalculus	4
MAT	251	Finite Math	3
MAT	253	Discrete Math	3
MAT	255	Business Statistics I	3
MAT	281	Calculus I	4
MAT	282	Calculus II	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	140	General Biology	4
CIS	107	Intro to Computers/Application	3
EDC	220	Parent/Family/School Interact	3
POL	111	Political Science	3
PSY	125	Child Development	3
SOC	111	Sociology	3
ENG	124	Oral Communications	3
or			
ENG	131	Honors Oral Communication	3

Education

Science Education: Chemistry/Physics

A.A.T. Degree (O,T,S)

The new Science Education Program will utilize the resources of Delaware Tech's programs and faculty in the Mathematics, Education, Science, English and Social Science departments. Technology is infused within each of the general education areas, so a separate computer technology course will not be part of the course sequence. The major electives and physics course selections allow students to complete courses that articulate to a physics or chemistry bachelor degree program.

CORE COURSES

Courses		Credits
ENG 101	Crit Thinking & Acad Writing	3
ENG 102	Composition and Research	3
MAT 281	Calculus I	4
PSY 121	General Psychology	3
HIS 111	U. S. History: Pre-Civil War	3
or		
HIS 112	U. S. History: Post-Civil War	3

PROGRAM/MAJOR COURSES

Courses		Credits
CHM 150	Chemical Principles I	5
CHM 151	Chemical Principles II	5
EDC 115	Nature of Science	1
EDC 260	Educational Psychology	3
MAT 283	Calculus III	4
and		
MAT 291	Ordinary Differential Equation	4
or		
BIO 150	Biology I	4
and		
CHM 240	Organic Chemistry I	4
PHY 205	General Physics I	4
and		
PHY 206	General Physics II	4
or		
PHY 281	Physics I with Calculus	4
and		
PHY 282	Physics II with Calculus	4

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
EDC 100	Professional Prep: Praxis I	1
MAT 282	Calculus II	4
PSY 127	Human Development	3
SPA 136	Spanish Communication I	4
Select 1 course(s) from:		
ECO 111	Macroeconomics	3
ECO 122	Microeconomics	3
ENG 124	Oral Communications	3
SOC 111	Sociology	3

Diploma Programs

CAMPUS KEY: T = Dover; O = Georgetown; S = Stanton; W = Wilmington

Program	Campus
Automotive Technician Studies	O,S
Baking and Pastry Skills Studies	S,T
Chemical Process Operator Studies	S
Commercial Transportation Studies	O
Early Childhood Studies	O,T,W
Kitchen Skills Studies	S
Laser & Optics Studies	S
Medical Coding Studies	W
Practical Nursing Studies	O,T
Refrigeration, Heating, & Air Conditioning Studies	O

Automotive Technology

Automotive Technician Studies

Diploma (O,S)

The diploma in Automotive Technician Studies provides the student with a foundation of mechanical skills needed in the automotive industry. The program provides a combination of classroom and shop instruction. Upon completion of the diploma requirements, students who desire to continue their education may transfer these courses into the Automotive Technology Degree program. Academically ready students can apply to the program following the guidelines of each location's wait-list process. Interested applicants should review the information provided here and contact their program advisor for program requirements.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
MAT	120	Math for Behavioral Sciences	3
PSY	100	Human Relations	3

PROGRAM/MAJOR COURSES

Courses			Credits
AUT	114	Intro to Automotive Technology	3
AUT	116	Automotive Electrical	5
AUT	118	Auto Steering & Suspen/Align	3
AUT	119	Automotive Brake Systems	3
AUT	122	Auto Air Conditioning/Heating	3
AUT	123	Work Experience I	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
ENT	101	Intro to Entrepreneurship	3
or			
BUS	101	Introduction to Business	3

Culinary Arts

Baking and Pastry Skills Studies

Diploma (S,T)

This program is designed specifically for industry professionals and students that are employed or plan to be employed in the hospitality industry as a pastry cook and desire to further their education and begin the advancement to a supervisory position. Courses are offered on a part-time basis and credits earned my be applied to the Associate Degree in the Culinary Arts or Food Service Management. Industry professionals and students will also acquire the three mandatory classes required by the American Culinary federation to begin the certification process.

CORE COURSES

Courses			Credits
COM	111	Human Communications	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	120	Math for Behavioral Sciences	3

PROGRAM/MAJOR COURSES

Courses			Credits
CUL	112	Cake Decorating	2
CUL	119	Food Safety and Sanitation	2
CUL	121	Food Prep I	4
CUL	261	Baking	4
CUL	262	Pastry	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
HRI	212	Food/Beverage Cost Control	3
MGT	148	Culinary Supervisory Develpmnt	3
SCI	141	Nutrition in the Culinary Fld	2

Chemical Process Operator

Chemical Process Operator Studies

Diploma (S)

The Chemical Process Operator Studies diploma program prepares students for employment in industrial plants in the chemical, petroleum, polymer and pharmaceutical industries. The chemical industry has a great need for trained chemical operators to adjust and optimize conditions for the production of large quantities of products in local chemical plants and pilot plants. Graduates are readily employed by these local plants at competitive salaries. The program provides a practical education in various aspects of plant operations such as hands-on training in process operations and control, regulatory compliance, and preventive maintenance skills. Laboratory facilities include not only standard lab equipment, but also modern instrumentation in pilot plant technology and computer simulations.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
MAT	140	Essentials of College Algebra	4

Select 1 course(s) from:

ECO	111	Macroeconomics	3
POL	111	Political Science	3
PSY	121	General Psychology	3
SOC	111	Sociology	3

PROGRAM/MAJOR COURSES

Courses			Credits
CPO	106	Statistical Procs Cntrl Ovrvw	1
CPO	125	Safety, Health & Environment	3
CPO	135	Chem Proc Tech-Equipment	3
CPO	151	Chem Proc Tech I-Systems	4
CPO	252	Chem Proc Tech II-Operations	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CHM	110	General Chemistry	4
CIS	107	Intro to Computers/Application	3
ELC	101	Intro to Instrumentation	3

Automotive Technology

Commercial Transportation Studies

Diploma (O)

The curriculum is designed to provide the student with operating skills and practical knowledge of tractor trailer driving with emphasis on business skills needed in the transportation industry. It will prepare the student for entry-level employment as a CDL "A" licensed commercial vehicle driver/operator. Students spend their day in a combination of classroom, range practice, and road training in order to develop safe skills of operation and mechanical familiarization of the equipment. Employment opportunities can be found in either local or long-distance areas of the transportation industry.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
MAT	150	Business Mathematics	3
PSY	100	Human Relations	3

PROGRAM/MAJOR COURSES

Courses			Credits
CTS	101	Fundmentals-Motor Fleet Safety	3
CTS	102	Vehicle Sys/Report Malfunction	2
CTS	103	Tractor Trailer Operations	2
CTS	104	Road Driving Practices	1
CTS	105	Range Driving Practices	2
CTS	106	Advanced Driving Operations	2
CTS	107	Advanced Driving Practices	1
CTS	108	Professional Driver Developmnt	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3
Select 1 course(s) from:			
BUS	101	Introduction to Business	3
ECO	111	Macroeconomics	3
ENT	101	Intro to Entrepreneurship	3

Early Childhood Education

Early Childhood Studies

Diploma (O,T,W)

The Early Childhood Studies program is an intensive study of the child from birth to eight years. This program prepares the student to work under the supervision of qualified teachers with pre-school children in a day care center, nursery school, or child development center. This program is designed for those currently employed in the child care field or for those considering the Associate Degree Program in Early Childhood Education. Credits earned in this program may be applied toward an Associate Degree in Early Childhood Education.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
MAT	150	Business Mathematics	3
PSY	125	Child Development	3

PROGRAM/MAJOR COURSES

Courses			Credits
ECE	111	Childhd Nutrition/Safety	3
ECE	120	Comtemp Issues in Erly Childhd	3
ECE	121	Infant & Toddler Methods & Lab	5
ECE	123	Early Childhd Methods I & Lab	5
ECE	125	Early Childhd Methods II & Lab	5
ECE	127	Childhood Classroom Mgt	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CIS	107	Intro to Computers/Application	3

Culinary Arts

Kitchen Skills Studies

Diploma (S)

This program is designed specifically for industry professionals and students who are employed or plan to be employed in the hospitality industry as cooks and desire to further their education and begin the advancement to a supervisory position.

Courses are offered on a part-time basis and credits earned may be applied to the Associate Degree in the Culinary Arts or Food Service Management. Industry professionals and students will also acquire the three mandatory classes required by the American Culinary Federation to begin the certification process.

CORE COURSES

Courses			Credits
COM	111	Human Communications	3
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	120	Math for Behavioral Sciences	3

PROGRAM/MAJOR COURSES

Courses			Credits
CUL	119	Food Safety and Sanitation	2
CUL	121	Food Prep I	4
CUL	171	Garde Manger	4
FSM	210	Quantity Food Production	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
HRI	212	Food/Beverage Cost Control	3
MGT	148	Culinary Supervisory Develpmnt	3
SCI	141	Nutrition in the Culinary Fld	2

Specialized Occupations

Laser & Optics Studies

Diploma (S)

The Laser & Optics Studies Diploma Program is designed to offer students of any degree program the opportunity to study lasers and optics beyond the Physics II level. Lasers are pervasive in many fields of technology. The theoretical as well as hands-on experience students receive will serve as a solid foundation in the basics necessary to keep up with the advances in laser and optics technology. Further information can be obtained by contacting the Chairperson of the Mathematics/Physics Department.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
PSY	121	General Psychology	3
MAT	181	Algebra and Trigonometry I	4
or			
MAT	281	Calculus I	4

PROGRAM/MAJOR COURSES

Courses			Credits
LAS	271	Intro to Lasers	4
LAS	272	Geometrical Optics & Lasers	4
LAS	273	Wave Optics & Lasers	4
PHY	205	General Physics I	4
or			
PHY	281	Physics I with Calculus	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
MAT	182	Algebra and Trigonometry II	4
or			
MAT	282	Calculus II	4
PHY	206	General Physics II	4
or			
PHY	282	Physics II with Calculus	4

Allied Health

Medical Coding Studies

Diploma (W)

The Medical Coding Studies is a diploma program that prepares graduates for careers as Medical Coders. A Medical Coder manages and classifies medical data for patient billing using standardized codes. Students learn how to correctly assign codes that indicate patient diagnosis, treatment and outcomes in order to properly document patient care and permit data access, analysis and billing. The program provides didactic courses followed by an internship experience in an approved facility. Graduates of the program find employment in a variety of settings, including hospitals, long-term care centers, mental health facilities, federal, state and local health departments, and insurance companies. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
SOC	213	Ethical Issues in Health Care	3
Select 1 course(s) from:			
MAT	120	Math for Behavioral Sciences	3
MAT	135	Biomedical Statistics	3
MAT	140	Essentials of College Algebra	4
MAT	153	College Math and Statistics	4
MAT	181	Algebra and Trigonometry I	4

PROGRAM/MAJOR COURSES

Courses			Credits
HIM	120	ICD Coding I	4
HIM	121	ICD Coding II	4
HIM	122	CPT Coding	4
HIT	100	Intro to Health Information	3
HIT	170	Medical Coding Practicum	2

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	100	Medical Terminology	3
BIO	108	Basic Pharmacology	2
BIO	120	Anatomy and Physiology I	5
BIO	121	Anatomy and Physiology II	5
BIO	130	Disease Proc/Pathophysiology	3
CIS	107	Intro to Computers/Application	3

Allied Health

Practical Nursing Studies

Diploma (O,T)

The Practical Nursing Programs at the Owens and Terry Campuses provide the means by which individuals acquire the knowledge and skills necessary to function in a variety of health care settings at the direction of the registered nurse, physician, or dentist. Courses are designed to include theory and practical application which enables the graduate to provide competent patient care. Licensed Practical Nurses may be employed in a variety of health care settings including acute care hospitals, long-term care facilities, doctor's offices, and public health. Admission to the Practical Nursing Program requires that individuals submit official documentation of high school graduation or equivalent, in addition to the completion of all college admission requirements. Prior to admission to the clinical portion of the program, all students must complete the NLN Pre-Admission Examination-PN. In order to receive a license to practice, the graduate practical nurse must pass the National Council of State Boards of Nursing Examination for Practical Nurses. Licensed Practical Nurses may apply for admission to Associate Degree Nursing programs. Advanced placement will be dependent upon meeting requirements. The legal requirements for licensure in the State of Delaware are outlined in the Nursing Department Admissions Handbook. A criminal background check and drug screen is required for all students. Transfer students must follow the transfer policy of Delaware Technical Community College. The Practical Nursing Programs at both campus locations are approved by the Delaware Board of Nursing and the Terry Campus program is also accredited by the Accreditation Commission for Education in Nursing (ACEN). Information about the program is available from the Accreditation Commission for Education in Nursing, 3342 Peachtree Road NE, Suite 850, Atlanta, Georgia 30326;(404) 975-5000; www.nlnac.org Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
ENG	102	Composition and Research	3
MAT	129	Math for Health Sciences	3
PSY	127	Human Development	3

PROGRAM/MAJOR COURSES

Courses			Credits
NUR	131	Fundamentals of Nursing	4
NUR	132	Medical-Surgical Nursing I	6
NUR	133	Medical-Surgical Nursing II	6
NUR	134	Essentials-Mental Hlth Nursing	2
NUR	135	Essents Maternal/Chld Nursing	4
NUR	137	Essentials Legal-Ethicl Issues	1

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
BIO	110	Essentls-Anatomy & Physiology	4

Refrigeration, Heating, & Air Conditioning

Refrigeration, Heating, & Air Conditioning Studies

Diploma (O)

This curriculum is designed to provide the student with practical and theoretical knowledge of refrigeration, heating, and air conditioning systems. These technical courses combine classroom theory with practical hands-on training. Related courses are intended to prepare students for professional and technical career opportunities. A diploma is awarded to students who successfully complete all required technical and related courses. Certificate options are available.

CORE COURSES

Courses			Credits
ENG	101	Crit Thinking & Acad Writing	3
MAT	125	Math for the Trades	4
or			
MAT	150	Business Mathematics	3
PSY	100	Human Relations	3
or			

PSY	121	General Psychology	3

PROGRAM/MAJOR COURSES

Courses			Credits
ACR	101	HVAC Electricity	5
ACR	102	Fundamentals of Refrigeration	5
ACR	104	Residential Climate Control	5
ACR	105	Residential Heating I	5
ACR	114	EPA Seminar and Exam	1
ACR	120	Employee Development Seminar	2
ACR	150	Industry Competency Exam I	1
ACR	151	Industry Competency Exam II	1

Certificate Programs

CAMPUS KEY: T = Dover; O = Georgetown; S = Stanton; W = Wilmington

Program	Campus
Airframe Maintenance Technology Certificate	O
Baking and Pastry Skills Certificate	S,T
Chemical Process Operator Certificate	S
Commercial Transportation Certificate	O
Cooking Certificate	S
Direct Support Professional Certificate	O,T,W
Drug/Alcohol Counseling Certificate	T,W
EMT Paramedic Certificate	T
ENT: Refrigeration Heating A/C Certificate	O
Early Childhood Leadership	O,T,W
English as a Second Language Certificate	O,T,W
Entrepreneurship Certificate	O,T,W
Instructional Design and Technology Certificate	O,T,S,W
Instrumentation Certificate	S
Machinist Training Level I Certificate	S
Machinist Training Level II Certificate	S
Paralegal Certificate	O,T
Powerplant Maintenance Technology Certificate	O

Airframe Maintenance Technology

Airframe Maintenance Technology Certificate

Certificate (O)

There is a growing need for trained and certified airframe maintenance technicians. In response, Delaware Tech has developed a program to provide students with the knowledge and skills necessary to gain Federal Aviation Administration (FAA) licensing and the opportunity to enter into a challenging and exciting career in the aviation industry.

The 53 credit-hour Airframe Maintenance Technology Certificate will prepare you to successfully complete the FAA exams for certification. If you choose to continue your studies, you can apply those credits toward an associate degree in Airframe Maintenance Technology.

Through the study of aviation maintenance theory and practical application, our students develop critical thinking, manipulative skills, and a familiarity with the tools and technologies necessary to succeed in the field of aircraft maintenance. Academically ready students can apply to the program following the guidelines of each location's wait-list process. Interested applicants should review the information provided here and contact their program advisor for program requirements.

PROGRAM/MAJOR COURSES

Courses			Credits
AMT	220	Airframe Maintenance - AF III	11

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
ELC	122	Electronic Devices/Circuits I	3

Culinary Arts

Baking and Pastry Skills Certificate

Certificate (S,T)

Is your favorite room the kitchen and your favorite appliance the stove? If you answered "yes" to both questions, then the one-year Baking and Pastry Skills Certificate offered at Delaware Tech will prepare you for employment in the hospitality industry as an entry-level pastry cook. If you're already an industry professional, you'll learn additional skills to help you advance to a supervisory position. At Delaware Tech, you'll gain experience in the demonstration and skills kitchen, learning the details of culinary arts including food preparation, baking, sanitation, and nutrition.

Courses are offered on a part-time basis, and the 18 credits earned in this program may be applied to the Baking and Pastry Skills Studies Diploma or the Associate Degree in the Culinary Arts or Food Service Management programs. Industry professionals and students will also acquire the mandatory classes required by the American Culinary Federation to begin the certification process.

PROGRAM/MAJOR COURSES

Courses			Credits
CUL	112	Cake Decorating	2
CUL	119	Food Safety and Sanitation	2
CUL	261	Baking	4
CUL	262	Pastry	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
MGT	148	Culinary Supervisory Develpmnt	3
SCI	141	Nutrition in the Culinary Fld	2

Chemical Process Operator

Chemical Process Operator Certificate

Certificate (S)

Delaware Tech's Chemical Process Operator program prepares highly skilled and knowledgeable students for employment as process operators in the chemical, pharmaceutical, polymer, and petroleum refining industries. These important industries throughout the Delaware River Valley area have a great need for trained process technicians to operate equipment for the production of industrial and consumer products. Graduates are readily employed by these local plants at competitive salaries. The program provides a practical education in the various aspects of plant operations including safe startup, shutdown, troubleshooting procedures, regulatory compliance, and basic preventive maintenance. And our laboratory facilities include high tech mechanical equipment, modern instrument trainers, computer process simulators, and six pilot plant units.

The Chemical Process Operator Technology Program has three options. Certificate, diploma, and associate degree programs are offered so that students can build their educational credentials as they work in the field. The certificate program requires completion of eight courses equivalent to

25 credit hours.

CORE COURSES

Courses			Credits
MAT	125	Math for the Trades	4

PROGRAM/MAJOR COURSES

Courses			Credits
CPO	106	Statistical Procs Cntrl Ovrvw	1
CPO	125	Safety, Health & Environment	3
CPO	135	Chem Proc Tech-Equipment	3
CPO	151	Chem Proc Tech I-Systems	4

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
CHM	110	General Chemistry	4
CIS	107	Intro to Computers/Application	3
ELC	101	Intro to Instrumentation	3

Automotive

Commercial Transportation Certificate

Certificate (O)

Do you enjoy the freedom of the open road and want a career that doesn't involved sitting behind a desk? This is a Professional Truck Driver Institute (PTDI) nationally-certified curriculum that combines classroom study with practical experience behind the wheel of diesel-powered tractor trailers on a private training range as well as public streets and highways. You'll also learn the intricacies of handling a variety of truck types and cargo, conducting required inspections, proper reporting and documentation requirements, and trip planning techniques -- all in a small class-size environment.

The Certificate Program is available in flexible combinations of weekday and evening study. You'll earn college credits while gaining the knowledge and skills necessary to earn your CDL "A" operator's license.

PROGRAM/MAJOR COURSES

Courses			Credits
CTS	101	Fundmentals-Motor Fleet Safety	3
CTS	102	Vehicle Sys/Report Malfunction	2
CTS	103	Tractor Trailer Operations	2
CTS	104	Road Driving Practices	1
CTS	105	Range Driving Practices	2
CTS	106	Advanced Driving Operations	2
CTS	107	Advanced Driving Practices	1
CTS	108	Professional Driver Developmnt	3

Culinary Arts

Cooking Certificate

Certificate (S)

As a graduate of Delaware Tech's Culinary Arts Cooking Certificate program, you'll have the basic skills necessary to start on a career path to becoming a chef. In the program, you'll learn the fundamentals of food preparation and gain practical experience in basic baking, garde-manger, buffet presentation, and international cuisine. You'll work in the skills development kitchen and take field trips to the kitchens of area hotels and restaurants. The Culinary Arts Cooking Certificate prepares students to join the fast-growing food service industry and obtain a respected position in a career field where these skills are in demand. It's an excellent way to earn the credentials to help you advance through the various opportunities that the industry offers with the final goal of becoming a chef.

Courses are offered on a part-time basis, and the 14 credits earned through this program may be applied to the Kitchen Skills Diploma and ultimately the Associate Degree in the Culinary Arts or Food Service Management. Industry professionals and students will also acquire the mandatory classes required by the American Culinary Federation to begin their certification process. The College is a member of the National Restaurant Association and the American Culinary Federation (ACF), and our program is accredited by the Accreditation Commission of the American Culinary Federation.

PROGRAM/MAJOR COURSES

Courses			Credits
CUL	119	Food Safety and Sanitation	2
CUL	121	Food Prep I	4
FSM	210	Quantity Food Production	3

PROGRAM/MAJOR SUPPORT COURSES

Courses			Credits
MGT	148	Culinary Supervisory Develpmnt	3
SCI	141	Nutrition in the Culinary Fld	2

Human Services

Direct Support Professional Certificate

Certificate (O,T,W)

Make a difference one life at a time! Today, unlike in the past, most individuals with developmental disabilities live in their home communities and thrive thanks to Direct Support Professionals who help

them lead self-directed lives and contribute to their communities. As a student in this program, you'll learn how to provide these individuals support in daily living tasks, community living, health and wellness awareness, vocational experiences, and social integration. While enrolled, you'll earn 12 credit hours from a combination of classroom instruction and field work; courses will include face-to-face and online instruction. The skills and knowledge you learn can be applied to residential programs, day programs, or any combination of services appropriate for the client.

Labor market studies in Delaware indicate new job openings in this field within the next five years, and employers of direct support professionals are strongly encouraging certification. If you're looking for a career that is more than just a job, a Direct Support Professional certificate will prepare you for this challenging but rewarding profession.

PROGRAM/MAJOR COURSES

Courses		Credits
HMS 120	Direct Support/Cmnty Services	3
HMS 124	Comm Living Skills/Supports	3
HMS 125	Assessment and Communication	3
HMS 126	Desgn/Evaluation of Services	3

Human Services

Drug/Alcohol Counseling Certificate

Certificate (T,W)

Alcohol and drug addiction is a major public health problem in America. The consequences are far-reaching and affect individuals, families, and society as a whole. Our program will provide you with an understanding of drug use, abuse, and dependence and the related personal and social consequences. You will develop skills to provide therapeutic services for people dealing with substance abuse, with an emphasis on helping them maintain recovery and prevent relapse. As a graduate, you will be prepared for entry into the drug and alcohol counseling profession and/or to continue your education at a four-year institution to complete a bachelor's degree. This 18 credit-hour certificate program is designed to supplement an existing associate degree in a relevant area of study.

PROGRAM/MAJOR COURSES

Courses		Credits
DAC 141	Intro Drug&Alcohol Counseling	3
DAC 225	Drug&Alcohol Counseling II	3
DAC 230	Assessmnt/Trtmnt/D&A Counslng	3
DAC 240	Families & Addiction	3
DAC 244	Dir Practice II-Drug/Alcohol	6

Allied Health

EMT Paramedic Certificate

Certificate (T)

Paramedics provide advanced pre-hospital emergency care under medical command authority to acutely ill or injured patients and transport patients by ambulance or other appropriate emergency vehicles. Delaware Tech's 51-credit certificate program prepares you to recognize, assess, and manage a medical or trauma emergency, record and communicate pertinent data to a designated medical command authority, and direct and coordinate the transport of a patient. Enrollment in the Paramedic Certificate is limited to pre-approved candidates from the Delaware State Police Aviation Section or a County Advanced Life Support Service. Academically ready students can apply to the program following the guidelines of the Allied Health competitive admission process. Interested applicants should review the information provided here and contact their program advisor for application requirements.

PROGRAM/MAJOR COURSES

Courses		Credits
EMT 200	Intro To Paramedic Technology	5
EMT 201	Patient Assessment	3
EMT 202	Medical Emergencies I	3
EMT 203	ALS Skills Lab I	3
EMT 204	Special Populations	4
EMT 207	Paramedic Clinical I	1
EMT 211	Cardiology	4
EMT 212	Medical Emergencies II	3
EMT 213	ALS Skills Lab II	3
EMT 214	Legal Issues/Research	3
EMT 215	Trauma Emergencies	2
EMT 217	Paramedic Clinical II	3
EMT 227	Paramedic Clinical III	3
EMT 290	Paramedic Field Clinical	4

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
BIO 120	Anatomy and Physiology I	5
BIO 121	Anatomy and Physiology II	5
BIO 130	Disease Proc/Pathophysiology	3
CHM 100	Basic Chemistry	3
or		
CHM 110	General Chemistry	4

Entrepreneurial

ENT: Refrigeration Heating A/C Certificate

Certificate (O)

Want to start an engaging career? Earning your Refrigeration, Heating, and Air Conditioning Certificate will get you on your way! This curriculum is designed to provide students with the technical and practical knowledge required in the heating, air conditioning, and refrigeration fields at an intermediate level. Classroom studies and hands-on experience prepare certificate recipients for professional career opportunities. Taking part in this 38-39 credit-hour certificate program also offers new advancement options for individuals who are already employed in the field.

Students learn how to design, install, and maintain residential heating and air conditioning systems. The courses taken in this program can also be applied toward the completion of an associate degree.

PROGRAM/MAJOR COURSES

Courses			Credits
ACR	104	Residential Climate Control	5
ACR	105	Residential Heating I	5
ENT	101	Intro to Entrepreneurship	3
ENT	103	Legal Issues for ENT	3
ENT	104	Opportunity Analysis	3

Early Childhood Education

Early Childhood Leadership

Certificate (O,T,W)

The Early Childhood Leadership (ECL) Certificate is designed to enable graduates to fulfill leadership roles in early childhood education facilities. The program combines studies in best practices including creating an environment that promotes peak performance, optimizing operations to establish a successful business model, and maintaining a quality family-centered environment for young children. It prepares early childhood care and education professionals to serve as leaders in the early childhood care and education programs. Additionally, this Certificate will prepare graduates to serve as advocates for young children as the state of Delaware undergoes a transformation in its approach to preparing, certifying, recruiting, and retaining high quality teachers of young children.

PROGRAM/MAJOR COURSES

Courses			Credits
ECE	130	Early Childhood Leadership I	3
ECE	131	Early Childhood Leadership II	3
ECE	132	Early Childhood Leadership III	3

Specialized Occupations

English as a Second Language Certificate

Certificate (O,T,W)

The Department of Language & Culture offers courses to meet the varied needs of persons for whom English is not a native language. Students can prepare themselves to enter the workforce or pursue a degree.

In beginning, intermediate and advanced level courses, students develop listening/speaking, grammar, reading and writing skills needed for communication in everyday life. A certificate is awarded for program completion.

Students who complete the ESL Certificate Program and wish to pursue a degree take ESL 100, ESL for Degree Programs, which gives them acceptance into open-entry Associate Degree Programs at Delaware Technical Community College and prepares them for studies in any American college or university.

PROGRAM/MAJOR COURSES

Courses			Credits
ESL	022	Beginning ESL Reading/Vocab	4
ESL	024	Beginning Writing	4
ESL	026	Beginning Grammar/Comm	8
ESL	028	Beginning Listenng/Speakng	4
ESL	032	Intermediate Reading	4
ESL	034	Intermediate Writing	4
ESL	036	Intermediate Grammar/Comm	8
ESL	038	Intermediate Listening/Speakng	4
ESL	042	Advanced ESL Reading	4
ESL	044	Advanced ESL Writing	4
ESL	046	Advanced Grammar/Communication	8
ESL	048	Advanced Listening/Speaking	4

Entrepreneurial

Entrepreneurship Certificate

Certificate (O,T,W)

If you have a desire to be your own boss and have your own business, the Entrepreneurship Program is for you! Now you can explore this opportunity and get credit for it by earning an Introduction to Entrepreneurship Certificate.

Starting and operating a business takes a lot of

effort and know-how. The Intro to Entrepreneurship Certificate Program offers the foundational basics of taking your passion and turning it into a business. This certificate is designed to augment the degrees earned in other academic and technical programs. Whether you are in health care, automotive, refrigeration-heating-air conditioning, agriculture, or any other career vocation, you can learn the basic skills of how to launch your business. By successfully completing 15 credit hours in five specialized courses in the Entrepreneurship curriculum including topics of legal issues, funding and finance, and business plan development, you can earn an Entrepreneurship Certificate. Courses will include face-to-face and online instruction.

Although this certificate is designed to augment other degrees earned in other academic and technical programs, you may seek this introductory certificate to gain the basics of entrepreneurship without pursuing another degree, in which case some prerequisites may be required.

This certificate will help you take your profession or vocation through the initial steps to turn it into a viable business. As an entrepreneur, you can be self-employed or become a job creator for others!

PROGRAM/MAJOR COURSES

Courses			Credits
ENT	103	Legal Issues for ENT	3
ENT	210	ENT Business Process	3
ENT	285	Business Plan Development	3
ENT	104	Opportunity Analysis	3
or			
MKT	212	Principles of Marketing	3
ENT	240	Funding & Finance for ENT	3
or			
ENT	220	Leadership	3

Instructional Design and Technology

Instructional Design and Technology Certificate

Certificate (O,T,S,W)

Successfully preparing instructors to be effective users of educational technology is a critical component in helping to solve many of our current educational challenges. The adoption of new and emerging technologies within academia has only continued to grow and offers even more reason to be hopeful. This program prepares instructors to be better able to help their students comprehend difficult-to-understand concepts, engage in active learning, access information and resources, and meet their individual needs. The effective use of technology has proven to enhance learning, as well as improve student engagement and achievement.

The mission of the 15-credit Instructional Design and Technology Certificate program is to prepare educators to design, develop, deliver, and evaluate engaging educational opportunities and experiences to promote student success. The program enables educators to effectively employ emergent technologies in a variety of modes and settings.

PROGRAM/MAJOR COURSES

Courses			Credits
IDT	G21	Instructional Design	2
IDT	G22	Foundational Technologies	2
IDT	G31	Teaching with Technology	2
Select course(s) from:			
IDT	G07	Modem Classroom Management	2
IDT	G12	Tech Enabled Assess Strategies	1
IDT	G26	Advanced Classroom Technology	2
IDT	G32	Implementing Eff. Learning Com	2
IDT	G36	Educational Document Control	1
IDT	G39	Virtual Learning Env in Ed	1
IDT	G43	Crtve Cmns, Fair Use, & Cpyrt	1
IDT	G47	Psych of the Online Learner	2
IDT	G58	Fundamentals of Acad Advmnt	2
IDT	G59	Instructional Strategies	2
IDT	G63	ePortfolio Design	1
IDT	G82	e-books and Digital Readers	1
IDT	G86	Synchronous Tech in Teaching	1
IDT	G88	Leveraging Soc'l Media for Lrn	2
IDT	G99	Special Topic in Ed Technology	1

Electronic Engineering Technology

Instrumentation Certificate

Certificate (S)

If you're interested in a career as a process operator or instrument sales representative, the Instrumentation Certificate is designed to provide you with an introduction to the technical and practical knowledge required in this field. Classroom studies and hands-on experience in this program will prepare you for real-life applications. Taking part in this 15 credit-hour certificate program also offers advancement options if you are already employed in the field; or you could choose to continue your studies to obtain an associate degree, preparing you to be an instrument engineering technician. A career in this field may lead you to work in the chemical processing, food processing, oil and gas production, energy production industries, or other highly

technical fields. You could be involved in the installation, calibration, and maintenance of electronic, digital, and pneumatic equipment, as well as the development of procedures for maintenance and problem solving.

PROGRAM/MAJOR COURSES

Courses		Credits
ELC 101	Intro to Instrumentation	3
ELC 270	Process Instrumentation I	4

PROGRAM/MAJOR SUPPORT COURSES

Courses		Credits
PHY 111	Conceptual Physics	4
or		
PHY 205	General Physics I	4

Mechanical Engineering Technology

Machinist Training Level I Certificate

Certificate (S)

The creative work of designing and making tools from such diverse materials as metal, wood, or plastic requires patience, knowledge, and organization -- skills that are supported by the Delaware Tech Machinist Training Certificate program. In this program you will learn through classroom and hands-on instruction in a modern machine shop facility. You will become proficient in modern manufacturing techniques, 3D computer modeling, 2D drafting, and practical machine shop practices.

Well-trained machinists are in demand in the job market. Upon completion of this certificate program, you will increase your manufacturing job skills to help you gain a rewarding entry level position in a manufacturing environment. This certificate can be earned by successfully completing 16 credit hours through full- or part-time study, in the day or the evening.

CORE COURSES

Courses		Credits
MAT 140	Essentials of College Algebra	4

PROGRAM/MAJOR COURSES

Courses		Credits
EDD 131	Engineering Graphics/CAD	3
MET 123	Modern MFG Techniques	3
NCN 105	Machine Shop Practicum I	4

Mechanical Engineering Technology

Machinist Training Level II Certificate

Certificate (S)

Machinist and skilled manufacturing professionals are in demand. The level II certificate will give you the hands-on skills that companies are looking for. You will learn through classroom and practical instruction in a modern machine shop facility. You will become proficient in geometric dimensioning and tolerancing, modern manufacturing techniques, numerical control machining, computer applications, and advanced manufacturing techniques. In addition, you will learn the finer points of manufacturing and machining.

Upon completion of this certificate program, you will be an accomplished and knowledgeable machinist prepared with the job skills you need for a rewarding position in a manufacturing environment. This certificate can be earned by successfully completing 13 credit hours through full- or part-time study, in the day or the evening.

PROGRAM/MAJOR COURSES

Courses		Credits
MET 125	Adv Manufacturing Techniques	3
MET 235	Computer Nmrcl Cntrl Machining	4
NCN 104	Geometric Dimension/Tolerance	2
NCN 106	Machine Shop Practicum II	4

Paralegal

Paralegal Certificate

Certificate (O,T)

The Paralegal Certificate is available to students with an underlying associate or bachelor's degree in any discipline who are looking to further their education and gain specialized knowledge in the legal field. The certificate program is designed to prepare graduates to find employment in law firms, federal, state, and local agencies, the court system, banks, and private businesses. Students in the certificate program take a minimum of 24 credits in courses focusing on the structure and organization of the American legal system, basic principles of law and legal research, and various areas of substantive law. In addition, students may have the opportunity to complete an internship to supplement their classroom studies with relevant work experience.

PROGRAM/MAJOR COURSES

Courses			Credits
PLG	170	Intro to the Legal System	3
PLG	280	Legal Research & Writing	3
PLG	285	Law Office Mgmt & Procedures	3
or			
PLG	290	Paralegal Internship	4
Select 5 course(s) from:			
PLG	160	Family Law	3
PLG	172	Law of Simple Contracts	3
PLG	175	Estate Admin and Probate	3
PLG	270	Criminal Law/Invest Procedures	3
PLG	271	Real Property Law	3
PLG	273	Civil Procedure	3
PLG	274	Torts	3
PLG	276	Business Entities	3

Airframe Maintenance Technology

Powerplant Maintenance Technology Certificate

Certificate (O)

The Powerplant Maintenance Technology Certificate Program is designed to provide students with the knowledge and skills required to be a professional Powerplant maintenance technician. Graduates will acquire knowledge and skills needed in engine teardown and build-up, inspection, maintenance, repair, and testing. Upon completion of the 45 credit-hour Powerplant Maintenance Technology Certificate, the student will be prepared to take the FAA certification tests and earn a FAA Powerplant license. Academically ready students can apply to the program following the guidelines of each location?s wait-list process. Interested applicants should review the information provided here and contact their program advisor for program requirements.

PROGRAM/MAJOR COURSES

Courses			Credits
AMT	110	Airframe Maintenance General	12
AMT	230	Powerplant Maint - Section I	14
AMT	240	Powerplant Maint - Section II	13
ELC	122	Electronic Devices/Circuits I	3
MAT	125	Math for the Trades	4

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M.A., Delaware State University

GONZALES, TWAIN
B.S., Bloomsburg University
B.S., Philadelphia College of Osteopathic Medicine
Psy.D., Philadelphia College of Osteopathic Medicine

GRUNDEN, JENNIFER J.
Financial Aid Officer
A.S., Widener University/ Brandywine College
A.A.S., Delaware Tech
B.S., Delaware State University

HAINSWORTH, CHRISTOPHER K.
Instructor/Dept. Chair, Paramedic Program
B.S., University of Maryland
M.S., University of Maryland

HALL, JEFFREY
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A.A.S., Delaware Tech
B.S., University of Maryland
M.S., Wilmington University

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A.A.S., Community College of the Air Force
B.S., University of Maryland University College
B.A., Delaware State University
M.A., Washington College

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B.S., Salisbury State University
M.S., Morgan State University

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A.O.S., Culinary Institute of America
A.A., Junior College of Albany
B.A., University of Delaware
M.Ed., Wilmington College

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M.S., Wilmington University

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Instructor, Human Services
B.S., Loma Linda University
M.S., Walla Walla College

HOFSTETTER, MARTHA
Assistant to the Campus Director
B.F.A., Louisiana Tech University
B.A., Louisiana Tech University
M.M., University of Southern Mississippi
Ed.D., Wilmington College

HUDSON, SUE S.
Instructor, Science
A.A.S., Delaware Tech
B.S., Salisbury University

JACKSON, THOMAS A.
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JOHNSON, ANNAMARIE B.
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M.A., Delaware State University

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Ph.D., Academy of Sciences (Bulgaria)

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M.S.N., Wesley College

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M.A., Washington College
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B.S.N., University of Delaware
M.S.N., Wilmington College

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B.S. Frostburg State
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A.A.S., Delaware Tech
B.S., Southern Illinois University, Carbondale
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B.A., University of Delaware
M.A., University of Delaware

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J.D., Temple University

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B.S., Concordia University
M.S., McGill University

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M.S.N., University of Phoenix

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B.A., Rollins College
J.D., Widener University

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B.A., Elon University
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B.S., University of the Pacific
M.B.A., John F. Kennedy University

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B.S., Delaware State University
M.S.E.E., University of Delaware
M.S. Physics, Delaware State University

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B.S., Delaware State University
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Ed.D., University of Delaware

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B.S.N., University of Delaware

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M.S.W., Wesley College

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M.S., Wilmington University

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Ed.D., Wilmington University

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B.S., Wesley College
M.S., University of Florida

YANOS, RUTH C.
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M.S.N., Widener University
Ph.D., University of Maryland

ZEREFOS, EFTIHIA I.
Educational Training Specialist
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B.B.A., Wesley College
M.B.E., Wilmington College

ACC 100 - Introduction to Accounting ..... **(3:2:2)**
Principles and procedures of accounting, emphasizing the role of accounting in making business decisions, understanding the meaning of accounting information, how it is compiled, how it can be used, and its limitations. The focus is on the bookkeeping aspects of accounting, including basic business transactions, payroll, special journals, and the preparation of simple financial statements and worksheets. Prerequisites: Test score or RDG 005 or RDG 051 or NCS 052 or ESL 032 or ESL 100 or RDG 120 and Test score or MAT 005 or NCS 005 or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 135 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

ACC 101 - Accounting I ..... **(4:3:2)**
This course introduces principles and concepts of financial accounting with emphasis on accounting for sole proprietorships. Areas covered include accounting for service and merchandising businesses, cash, receivables, inventory, plant assets and liabilities. Balance sheet and Income statement preparation and analysis are included. Prerequisites: (Test Score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test Score or MAT 015 or MAT 016 or NCW 045 or MAT 075 or MAT 090 or MAT 135 or MAT 140 or MAT 141 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 251 or MAT 261 or MAT 281).

ACC 112 - Accounting II ..... **(4:3:2)**
Principles and procedures continue with partnership, corporations, bonds, retained earnings, corporate securities, cash flow statement, introduction to managerial accounting with job order costing, CVP and incremental analysis, responsibility accounting, budgets and standard costing. Prerequisite: ACC 101

ACC 161 - Micro Computer Accounting Appl ..... **(3:2:2)**
In this course the student will carry out all accounting functions on the computer: recording and managing the general ledger, receivables, payables, and establishing a database. Prerequisites: Test score or ENG 051 or ESL 100 or NCS 051 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

ACC 162 - Computerized Accounting ..... **(3:2:2)**
This course prepares students with the workplace skills necessary for the utilization of automated accounting software to include data entry by interpreting accounting information, creation of financial statements and other financial reports, creation of payroll and the related payroll reporting requirements and creation and management of customer invoices and vendors' bills. This course will reinforce the concepts learned in Accounting I and apply these concepts to computer software that can be used to make business decisions. Prerequisites: ACC 101 and CIS 107

ACC 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ACC 211 - Tax Accounting I ..... **(3:3:1)**
This course covers a review of the federal income tax structure. Major topics include determination of gross income, adjustments, itemized deductions, the standard deduction, personal and dependency exemptions, tax liability, and tax credits; theory and return preparation are emphasized. Prerequisites: ACC 101 and (Test Score or MAT 140 or MAT 153 or MAT 181 or MAT 185) and (Test Score or ENG 121 or ENG 125)

ACC 212 - Tax Accounting II ..... **(3:3:1)**
Advanced topics including tax research, the audit process, the AMT, partnerships, S corporations, regular corporations, estate, gift and trust taxation; emphasis includes tax forms and tax planning. Prerequisites: ACC 112 and ACC 211.

ACC 213 - Managerial Accounting ..... **(3:3:1)**
Study of internal accounting procedures employing the use of accounting data by management for planning, control and special decisions. Topics include cost behaviors, cost management, budgeting, and management decision-making. Prerequisites: ACC 112 and ENG 121.

ACC 214 - Governmental Accounting ..... **(3:3:1)**
A study of the nature, purpose, and characteristics of each of seven types and two account groups used by state and local governments. Emphasis is on proper recording and reporting by the various funds and account groups and the comprehensive annual financial report. Prerequisite: ACC 112 Prerequisites: ACC 112and ENG 121.

ACC 221 - Cost Accounting I ..... **(3:3:1)**
A study of the cost concepts, the cost accounting information system, and the role of the cost accountant. Topics covered include the elements of cost, job order costing, process costing, by-products, joint products, inventory control in a just-in-time environment and quality control procedures. Prerequisite: ENG 121 and CIS 107 Prerequisites: ENG 121 and CIS 107 and ACC 112.

ACC 222 - Cost Accounting II ..... **(3:3:1)**
A study of the determination of relevant data for short- and long-term decision making; the use of quantitative methods such as capital budgeting models, expected values, and the budgeted income statement; activity-based management and costing, standard costing, direct costing and CVP analysis. Prerequisites: ACC 221 and CIS 112.

ACC 230 - Accounting Information Systems ..... **(3:3:1)**
Accounting information and its place within an organization's overall management information system. Emphasis on information and document flow, internal control, data organization, and the analysis, design, development, and audit of computer-based accounting systems. Includes some computer work. Prerequisites: ACC 112 and CIS 107 and MGT 212

ACC 231 - Intermediate Accounting I ..... **(3:3:1)**
This course examines the principles and procedures emphasized in the preparation and interpretation of the statements of income, retained earnings, cash flow, and balance sheets. The time value of money, receivables, inventories, and fixed assets are covered in depth. Prerequisites: ACC 112 and (Test score or ENG 121 or ENG 125) and (Test score or MAT 140 or MAT 153 or MAT 181 or MAT 185)

ACC 232 - Intermediate Accounting II ..... **(3:3:1)**
A continuation of the in-depth examination of principles and procedures emphasizing the following topics: current, and long-term liabilities, stockholders' equity, investments, leases,

pensions, income measurement, and analysis of financial statements with full disclosures. Prerequisites: ACC 231.

ACC 240 - Advanced Accounting ..... **(3:3:1)**
This course emphasizes accounting concepts and procedures beyond the intermediate accounting level. Topics covered include consolidated financial statements, intercompany transactions, the international accounting environment, partnership accounting, and governmental and not-for-profit accounting. Prerequisites: ACC 231 and ACC 221 and ACC 211 and ECO 122.

ACC 251 - Auditing..... **(3:3:1)**
A study of external audit process, including ethical and legal environment, audit planning, control risk assessment, substantive testing, and audit report. Prerequisites: ACC 231 and CIS 112 and MAT 250 or MAT 255.

ACC 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chair.

ACC 291 - Intermediate Accounting Honors ..... **(3:3:1)**
Principles and procedures emphasizing the preparation and interpretation of the statements of income, retained earnings, cash flow, and balance sheet. The time value of money, receivables, inventories, and fixed assets are covered in depth. In addition to the course outline of ACC 231, Intermediate Accounting Honors includes an appropriate approved project. Prerequisite: ACC 112 and Prerequisites: ACC 112 and ENG 121.

ACE 025 - Language, Grammar & Writing..... **(2.25:2.25:0)**
In this course, students learn the core fundamentals of language, grammar, and writing. This course concentrates on improving these skills through the use of literary texts and relevant fiction. Prerequisites: None

ACE 026 - Writing Research& Presentation.... **(2.25:2.25:0)**
In this course, students learn the core fundamentals of Writing, Research, and Presentation with emphasis on: public speaking, writing informative and explanatory essays, writing for an audience, using technology, and conducting a short research project. This course focuses on the use of information-based texts. Prerequisite: ACE 025

ACE 033 - World Literature..... **(2.25:2.25:0)**
In this course, students continue the progression of skills through World Literature, with emphasis on evaluating speakers' points of view, writing arguments to support claims, gather and use info from many sources, cite evidence to support analysis, analyze authors' uses of text and evaluate claims in a text. This course uses both literary and informational texts. Prerequisite: ACE 026

ACE 034 - British Literature..... **(2.25:2.25:0)**
In this course, students study the progression of skills through British and American Literature (years 500-1800) with emphasis on integrating multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally); writing informative/ explanatory texts; and gathering relevant information from multiple authoritative print and digital sources; analyzing how complex characters develop over the course of a text; analyzing multiple interpretations of a story, drama, or poem; and analyzing documents of historical and literary significance. Prerequisite: ACE 033

ACE 035 - American Literature..... **(2.25:2.25:0)**
In this course, students continue their study of British and American Literature (years 1800-2000) with emphasis on developing and strengthening writing as needed by planning, revising, editing, rewriting. Prerequisite: ACE 034

ACE 040 - Writing & Research..... **(2.25:2.25:0)**
In this course, students continue to develop and use all of the skills from the previous courses and apply them to produce a research paper. The goal of the course is to prepare students to write at a level and depth appropriate for introductory, collegiate composition courses. Prerequisite: ACE 035

ACE 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ACE 196 - Advanced Credit/Poetry ..... **(3:3:0)**
Advanced credit for approved Academic Challenge college level English instruction in poetry. Prerequisites: None

ACE 197 - Advanced Credit/Novel ..... **(3:3:0)**
Advanced credit for approved Academic Challenge college level English instruction in novels. Prerequisites: None

ACE 198 - Advanced Credit/Drama..... **(3:3:0)**
Advanced credit for approved Academic Challenge college level English instruction in drama. Prerequisites: None

ACE 199 - Advanced Credit/Short Story ..... **(3:3:0)**
Advanced credit for approved Academic Challenge college level English instruction in short story. Prerequisites: None

ACE 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ACM 011 - Algebra I ..... **(3:3:0)**
Terminology, properties, polynomial operations, factoring, fractional simplification, exponents, roots; coordinate graphing and solving of linear equations, linear inequalities, and quadratic equation. Permission to take this course based on admission to the Academic Challenge Program.

ACM 012 - Algebra II ..... **(3:3:0)**
Functional notation, basic principles of coordinate geometry; systems of equations and inequalities; complex numbers, sequences and series. Solving and graphing of quadratic, polynomial, exponential, and logarithmic equations and functions. Prerequisites: ACM 011

ACM 021 - Geometry..... **(3:3:0)**
Postulates and Definitions. Development of deductive reasoning through direct and indirect proofs. Geometric inequalities, perpendicularity, parallelism, congruence, similarity, circles, constructions, polygons, and solids. Prerequisites: (ACM 011 (grade of CE) and ACM 012 (grade of BE)) or (ACM 011 (grade of BE) and ACM 012 (grade of CE)).

ACM 022 - Trigonometry/Analytic Geometry..... **(3:3:0)**
Computational and analytical trigonometry. Include angle conversion, evaluation of trig, functions, graphs, solving trig. equations, proving identities; right triangle and oblique triangle formulas and applied problems. Analytic Geometry includes conic and rotated conics with

applications. Prerequisites: (ACM 012 (grade of CE) and ACM 021 (grade of BE)) or (ACM 012 (grade of BE) and ACM 021 (grade of CE)).

ACM 023 - Trigonometry & Pre-Calculus B ..... **(3:3:LAB_HOURS)**
This course is designed to integrate intermediate algebra, analytic geometry, and trigonometry with other college algebra topics through a functional approach as a preparation for calculus. Prerequisites: ACM 032

ACM 031 - Probability and Statistics.....**(3:3:0)**
Data presentation with central tendency and variability analyses. Probability and counting rules, sampling, estimation hypothesis testing; Chi-square and analysis of variance; simple regression and correlation. Prerequisites: (ACM 021 (grade of CE) and ACM 022 (grade of BE)) or (ACM 021 (grade of BE) and ACM 022 (grade of CE)).

ACM 032 - Pre-Calculus .....**(3:3:0)**
Central concepts of algebra are reviewed and unified around the notion of a function and its graph (polynomial, rational, exponential, and logarithmic). Also includes limit and limit techniques, partial fractions, vectors, proof by induction, polar coordinates and parametric equations. Prerequisites: (ACM 022 (grade of CE) and ACM 031 (grade of BE)) or ACM 022 (grade of BE) and ACM 031 (grade of CE)).

ACM 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

ACM 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

ACR 101 - HVAC Electricity.....**(5:4:4)**
This course is designed to familiarize the student with electric fundamentals as applied to heating, ventilating, and air conditioning. Basic circuits, Ohm's Law, meters, motor theory, and circuit control are covered. Emphasis will be placed on wiring components and reading schematics. Hands-on training wil be provided with emphasis placed on mastery of skills and competency of assigned tasks. Prerequisites: (Test Scores or ENG 005 or ENG 006 or ENG 051 ENG 099 or NCS 051 or NCW 090 or ESL 034 or ESL 100 or ENG 121 or ENG 125) and (Test Scores or RDG 005 or ENG 006 or RDG 051 or ENG 099 or NCS 052 or NCW 091 or ESL 032 or ESL 100 or RDG 120) and (Test Scores or MAT 005 or NCS 005 or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 181).

ACR 102 - Fundamentals of Refrigeration .....**(5:4:4)**
This course is an introduction to the refrigerant cycle with emphasis on laws of physics for refrigerant gases, characteristics of heat transfer, design, operation, and service. Emphasis will be placed on calculating system pressures and operating temperatures. Hands-on training will be provided with emphasis placed on mastery of skills and competency of assigned tasks. Prerequisites: (Test score or RDG 005 or ESL 032 or RDG 051 or NCS 052 or ESL 100 or RDG 120) and (Test score or ENG 005 or ESL 034 or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 005 or NCS 005 or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 141 or MAT 150 or MAT 181)

ACR 104 - Residential Climate Control.....**(5:4:4)**
This course will introduce the student to residential air conditioning and heat pump systems. Design characteristics, components, operation and service will be covered. Emphasis will be placed on proper installation and troubleshooting procedures. Hands-on training will be provided with emphasis placed on mastery of skills and competency of assigned tasks. Prerequisites: (ACR 101 and ACR 102) and (Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120) and (Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125)

ACR 105 - Residential Heating I.....**(5:4:4)**
This course covers the basic understanding of different types of oil, gas, and electric warm air furnaces used in residential homes. Standard efficiency to high efficiency systems are covered, with emphasis on sequence of operation, repair, and adjusting to manufacturers' specifications. Hands-on training will be provided with emphasis placed on mastery of skills and competency of assigned tasks. Prerequisites: ACR 101 and (Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120) and (Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125)

ACR 114 - EPA Seminar and Exam.....**(1:1:0)**
This course is designed to prepare students to take EPA Section 608 technician Certification for Stationary equipment. The Technician Certification Exam will be included as part of this course. Prerequisite: ACR 102

ACR 115 - Air Distribution & Balancing.....**(3:3:1)**
This course will provide the knowledge to estimate, design, and select equipment for residential heating and air conditioning systems. Student will perform heat loss/gain load calculations and design duct systems to conform with industry standards. Air balancing instruments will be introduced. Prerequisites: Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

ACR 120 - Employee Development Seminar.....**(2:2:1)**
This course explores career opportunities in the heating, ventilation, and air conditioning field. Customer relations, safety, and environmental concerns are discussed. Refrigerant transition and recovery certification training is provided. Prerequisites: (Test scores or ENG 005 or ENG 006 or ENG 051 or ENG 099 or NCS 051 or NCW 090 or ESL 034 or ESL 100 or ENG 121 or ENG 125) and (Test scores or RDG 005 or ENG 006 or RDG 051 or ENG 099 or NCS 052 or NCW 091 or ESL 032 or ESL 100 or RDG 120).

ACR 121 - HVAC Energy Systems.....**(3:3:1)**
This is an introductory course on heating, ventilation and air conditioning systems. This course covers the fundamental theoretical principals and practical descriptions of the various HVAC equipment and systems used in residential/ commerical buildings. The student will learn basic thermodynamics, heat transfer and fluid flow dynamics. In this course we will cover heating and cooling load calculations, develop an understanding of psychometrics and investigate fan laws and air/water properties. This course will introduce the student to various types of HVAC equipment, analyze efficiencies of equipment and systems and learn how to estimate annual energy use of buildings. Prerequisites: PHY 111 and NRG 101 and NRG 103 and (MAT 140 or MAT 181 or MAT 182 or MAT 185 or MAT 281).

ACR 150 - Industry Competency Exam I ..... **(1:1:0)**
This course is designed to prepare students to take the Industry Competency Exam (ICE) for Residential Oil and Gas Heating. The ICE measures Industry-agreed standards of basic competency developed, supported and validated by major industry associations. The Industry Competency Exam will be included as part of the course. Prerequisite: ACR 105

ACR 151 - Industry Competency Exam II ..... **(1:1:0)**
This course prepares student to take the Industry Competency Exam (ICE) for Air Conditioning and Heat Pump. The ICE measures standards of basic competency developed, supported, and validated by major industry associations. The Industry Competency Exam is included as part of the course. Prerequisite: ACR 104 concurrent

ACR 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ACR 202 - Commercial Refrigeration ..... **(3:2:2)**
This course is designed to introduce the student to refrigeration systems used in light commercial applications. It will include low temperature systems, water cooled equipment, piping and servicing restaurant equipment. Prerequisites: ACR 101 and ACR 102 and ACR 120 and (Test score or RDG 120) and (Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185).

ACR 204 - Residential Heating II..... **(3:2:2)**
This course covers heat loss estimating, designing, and installation of hydronic heating systems. Hot water baseboard heating systems will be discussed with emphasis on methods of construction, balancing, and boiler designs. Prerequisites: Test score or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

ACR 222 - Commercial HVAC Energy Analysi..... **(2:2:1)**
This is an in-depth course on heating, ventilation and air conditioning systems. The student will identify and analyze the energy consumption of the various HVAC equipment and systems used in commercial buildings. The student will learn how to program and deploy data loggers to gather energy information such as temperature, humidity and current draw on various systems and components. This course will use the fundamentals of psychometrics, fan laws and air/water properties to analyze energy usage and select stratagies for improvement. The student will analyze alternatives to predict energy and cost savings for these strategies. Prerequisites: ACR 121 and (MAT 140 or MAT 181 or MAT 182 or MAT 185 or MAT 281).

ACR 250 - Industry Competency Exam III ..... **(1:1:0)**
This course is designed to prepare students to take the Industry Competency Exam (ICE) for Commercial Refrigeration. The ICE measures Industry-agreed standards of basic competency developed, supported and validated by major industry associations. The Industry Competency Exam will be included as part of the course. Prerequisite: ACR 202

ACR 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

AET 111 - Constr Blueprint Reading ..... **(4:4:0)**
This course will demonstrate fundamentals of reading and interpreting of residential and light commercial building construction drawings. Subject areas covered will include projections, drawing views, reading elevation drawings, floor plans, scale and dimensioning practices. Reading drawings for structural information, reading detail drawings and plot plans, and reading blueprints for trade information will also be covered. Pre-requisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 012 or MAT 015 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120)

AET 116 - Intro to Passive Solar Design ..... **(3:3:0)**
Examination of basic passive solar design elements, principles, products and construction methods as they relate to light construction applications. Students will be introduced to terminology, trends and ideas in this area of architecture. Prerequisites: Test score or RDG 120.

AET 121 - Intro to Arch Drafting..... **(4:2:5)**
Introduces beginning drafting students to the basics of architectural technical drawing. Emphasis is on the use of lettering, line quality, orthographic projection, types of architectural drawings, and dimension layout. Prerequisites: Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 150 or MAT 153 or MAT 181 or MAT 185 and Test Scores or MAT 015 or MAT 016 or NCW 045 or MAT 075 or MAT 090 or MAT 135 or MAT 140 or MAT 141 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 251 or MAT 261 or MAT 281

AET 123 - Arch Drafting/Design I ..... **(4:3:3)**
This course provides training and experience in modern drafting room procedure, practice and principles. Course covers the basic skills and techniques of drafting including freehand orthographic and pictorial sketching, geometric construction, multi-view projections, sectional views, auxiliary views, line types, lettering, dimensioning, notation, and use of drafting equipment and Computer Aided Design (CAD). Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or MAT 012 or NCS 012 or MAT 015 or MAT 090 or MAT 119 or MAT 120 or or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181).

AET 125 - Arch Drafting/Design II ..... **(4:3:3)**
This course presents basic architectural design, drafting, and documentation techniques. This is accomplished through the drawing of plot, floor, and elevation plans that contains sections, details, and schedules as used in residential construction documents. Quality line work, dimensioning, and drawing accuracy will be emphasized for traditional techniques, as well as, Computer Aided Design (CAD). Prerequisites: AET 123 and EDD 171 and (AET 135 or AET 135 concurrently).

AET 135 - Construction Materials/Methods..... **(3:2:2)**
This course will study construction materials and methods of use as they relate to the overall building industry. The major emphasis will be on the subject areas of soils, concrete, brick, masonry, steel, non-ferrous metals, lumber, timber, and plastics. Materials and methods are discussed in the context of their application in design, construction, building codes, zoning ordinances, and building loads. Prerequisites: (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test Score or ENG 051 or ENG 099 or NCS 051

or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 012 or NCS 012 or MAT 015 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181).

AET 150 - Engineering Constr Drafting ..... **(3:2:4)**
Preparation of drawings and support materials for architectural projects using standard industry practices, including plans, elevations, sections and other project representation tools. Student will develop an understanding of the construction process, engineeering materials and building systems. Prerequisites: (Test score or RDG 120) and (AET 121 or AET 123 or AET 125) and AET 135 and EDD 171.

AET 170 - Graphics for Arch Dsgn ..... **(4:3:3)**
An introduction to the drawing techniques for architectural design process, including both conceptual visualization and finished drawings. Emphasis will be placed on freehand techniques, rendering of materials, shades and shadows as applied to basic drawing types to include plan, elevation and perspective. Various drawing media, such as pencil, pen and markers, will be used. Prerequisites: AET 125

AET 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

AET 228 - Professional Practice ..... **(3:3:0)**
Introduction to the problems involved in the practice of architecture and construction. A study of interrelationships of the architect, engineer, owner, builder, artisan, and regulatory agencies in the project delivery process and legal contracts. An analysis of the organization and administration of an architectural practice, education, and licensing and career opportunities. Prerequisites: Test score or RDG 120 and Test score or ENG 051 and AET 125

AET 232 - Contracts/Specifications ..... **(3:3:0)**
Students are given a background in interpreting and preparing of specifications and other contract documents using the standards of CSI Manual of Practice. Course includes the legal implications of document preparation and project delivery process. Prerequisites: Test scores or RDG 120 and Test scores or ENG 121 and AET 135

AET 234 - Cost Estimating/Planning ..... **(3:3:0)**
This course covers material lists and take-off quantities of materials and labor costs from plans, working drawings, and specifications. Diffrent methods of estimating are presented, including an introduction to project costing and scheduling using productivity software. Prerequisites: (((Test Score or RDG 120) and (Test Score or ENG 121)) or Test Score or ENG 101 or ENG 102 or ENG 122)) and MAT 181 and ((AET 125 and AET 135) or (CET 125 and CET 135))

AET 235 - Adv Cost Estimating/Planning ..... **(3:3:0)**
A continuation of AET 234 - Cost Estimating and Planning. Advanced topics will include heavy and commercial estimating and fundamentals of value engineering. Students will prepare construction estimates for a field project. Prerequisites: Test score or RDG 120 and AET 234 and MAT 181

AET 236 - Building Service Systems ..... **(3:2:2)**
This course provides an introduction to the theory and practice involving the design and construction of mechanical systems to include heating and air conditioning, plumbing and electrical systems. Prerequisites: (Test score or ESL 100 or RDG 120) and MAT 181 and AET 125 and AET 135.

AET 241 - Adv Arch Construction Doc ..... **(4:3:3)**
Trains student in architectural construction document development through the completion of typical drawing types for non-residential construction with the emphasis on the design development process. Utilizes prior technical courses to apply comprehensive skills to code research, drawing set organization, detail development and selections, wall section design and plan and elevation layout. Emphasis will be devoted to using CAD application software for the preparation of finished construction documents. Imported .DXF symbols and drawings, and other advanced CAD features are also studied. Prerequisites: AET 125 and AET 135 and AET 150 and EDD 271.

AET 250 - Arch Drafting/Design III ..... **(4:3:3)**
This is a Computer Aided Design (CAD) based course with a focus on commercial building design, documentation, building placement, and site analysis and development, including use of surveying equipment, field notes and calculations. Projects will demonstrate an understanding of building codes, structural systems and building components in construction documents. Prerequisites: (Test score or ESL 100 or RDG 120) and MAT 181 and AET 125 and AET 264.

AET 264 - Architectural CAD Applications ..... **(3:2:2)**
Application of third-party architectural CAD software to create finished architectural construction documents based on residential construction. Using an integrated 2-D and 3-D CAD software package, representative construction drawings and completed, using both 2-D orthographic plans, elevations and sections and 3-D representations using modeling, quick perspective and other 3D features. Integral symbol libraries imported. DXF symbols, and integrated database functions are also studied. Prerequisites: (AET 125 or CET 125 or EDD 141) and EDD 271.

AET 270 - Arch Drafting/Design IV ..... **(4:3:3)**
This is a capstone course using multiple Computer Aided Design (CAD) software platforms in which students develop architectural projects utilizing a collaborative team approach. Emphasis is on research, building codes, building systems, sustainability and innovative industry practices. Prerequisites: AET 236 and AET 250 and AET 275.

AET 275 - Arch Dsgn:Foundation Studies I ..... **(4:3:3)**
This course is an introduction to the design process using abstract and applied projects in three-dimensional form to investigate the relationship between scale, context, and building elements. It includes the impact of function, materials and structure on the design process in creating architecture. Prerequisites: AET 125 and AET 264.

AET 276 - Arch Dgn:Foundation Studies II ..... **(4:2:5)**
Continuation of AET 275 Architectural Design: Foundation Studies I. Architectural problems will investigate the relationship between scale, context, and building elements and the impact of function, materials, and structure on the design process in creating architecture. Prerequisites: AET 275

AET 281 - Project Elective ..... **(3:2:2)**
Investigation of a research topic or an advanced design project with guidance and approval of the instructor. The student is required to submit a proposal, make periodic reports, submit formal documents and make a final presentation for evaluation. Prerequisites: None

AET 285 - Adv Design Elective ..... **(3:2:2)**
The student is required to complete an advanced design project with guidance and approval of the instructor. The student is required to submit a proposal, make periodic reports, submit formal working drawings in accordance with the proposal and make a final presentation for evaluation. Prerequisites: None

AET 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

AET 291 - Internship I ..... **(4:0:12)**
A supervised program designed to provide students with a variety of practical on-the-job experience. Prerequisites: None

AET 292 - Internship II ..... **(4:0:12)**
A supervised program designed to provide students with a variety of practical on-the-job experience. Prerequisites: None

AGS 101 - Soil Science ..... **(3:2:2)**
This course is a study of elements of soil science and management as they relate to production Agriculture, Horticulture and Turf sciences. Prerequisites: Test scores or RDG 051 or NCS 052 or ESL 100 orRDG 120

AGS 102 - Agricultural Science ..... **(3:3:0)**
This course is broad based introduction to principles of scientific agriculture. The course of study will overview the relationship of agriculture to human survival, interactions of society and the environment, soil, plant, animal, history and technology's role in agriculture. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or ESL 100 or RDG 120

AGS 103 - Greenhouse Mgt ..... **(3:2:2)**
The basic concepts of plant growth, development, photosythesis, floral production, greenhouse structures, and equipment to monitor the environment are discussed. Preparation of soil and amended media incorporating the use of fertilizers and plant growth regulators will also be discussed. Prerequisites: Test scores or RDG 051 or ESL 100 or RDG 120.

AGS 104 - Intro to Agribusiness Managemt ..... **(3:3:0)**
This course is a study of the role and organization of agribusiness and is designed to provide students with information relating to understanding the function and operation of an agribusiness and outline the skills necessary to become a valued employee or entrepreneur. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test scores or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test scores or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

AGS 105 - Prin of Plant Growth ..... **(3:2:2)**
Introduction to plant structure and function with practical application to agricultural plants. Prerequisite: Test score or RDG 005 and test score or ENG 005 and AGS 101.

AGS 106 - Vegetable Crop Production ..... **(3:3:0)**
This course examines general production principles associated with commercial vegetable production. Topics of discussion will include fertilization and harvesting practices. Home vegetable gardening and greenhouse crop production. Pesticide use and handling along with storage. Students will be introduced to Delaware's safe handling practices for vegetable production and sales. Prerequisites: (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and AGS 101 and AGS 105.

AGS 122 - Concept of Turf Mgt ..... **(3:2:2)**
This course is an introduction to identification, cultivation, and maintenance of turf grasses. Prerequisites: Test score or RDG 051 or ESL 100 or RDG 120.

AGS 123 - Trfgrss Maintenance Practices ..... **(3:2:2)**
This course is an introduction to identification, cultivation and maintenance of turfgrasses. Students will be introduced to practices used in the maintenance of golf courses, school facilities, parks, and athletic fields. Prerequisites: Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120

AGS 131 - Intro to Irrigation ..... **(3:2:2)**
This course will introduce the student to basic irrigation and drainage principles, uses of irrigation, and irrigation system design for landscape use. Prerequisites: Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

AGS 132 - Landscape Const & Management ..... **(3:2:2)**
This course is based on PLANET's skill standards for a Certified Landscape Technician. Students are instructed in interpreting landscape designs, identifying landscape plants, and planting/maintaining trees and shrubs. Landscape construction is emphasized in the areas of grading and drainage, paver installation and the use/maintenance of landscape equipment. Current topic discussions provide students an understanding of careers and the employability skills needed to enter the landscape industry. To become a Certified Landscape Technician, an applicant must pass the Common Core plus an Installation, Irrigation and/or Maintenance Core Test. Prerequisites: Test scores or RDG 051 or ESL 100 or NCS 052 or RDG 120 and Test scores ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test scores or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185 and AGS 101

AGS 135 - Turf & Landscape Irrigation ..... **(3:2:2)**
This course will introduce students to basic irrigation and drainage principles, uses of irrigation and irrigation system design for landscape use. Prerequisites: AGS 101 and AGS 132

AGS 136 - Turf Equipment Operations ..... **(3:2:2)**
This course covers the operation and maintenance of turf equipment; mower units, top dressers, core aerators, slit seeders, and miscellaneous turf equipment. Safety and proper handling of each is essential. An understanding of equipment costs and shop area organization will be practiced. Prerequisites: Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120

AGS 151 - Intensive Closed Syst Aquacltr ..... **(3:2:2)**
All currently accepted technologies and procedures for recirculating aquaculture systems including species and loading, particle filtration, biofiltration, waste disposal, aeration, heating tanks, disinfection, site selection, design water quality, disease, and economics will be covered in detail. Hands-on experience will be gained with the college's on-site system. Prerequisites: Test score or RDG 051 or ESL 100 or NCS 052 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

AGS 152 - Egg/Larvae Prodctn Techniques ..... **(3:2:2)**
Currently accepted technologies and procedures for the production of eggs, larvae, and fingerlings of species which are viable candidates for aquaculture in Delaware will be examined in detail. Hands-on experience will be gained through spawning and rearing activities in the college's on-site culture system. Species to be covered include striped bass, largemouth bass, minnows, tilapia, bluegill, and crayfish. Prerequisites: Test score or RDG 051 or ESL 100 or NCS 052 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

AGS 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

AGS 201 - Intro to Forestry ..... **(3:2:2)**
A basic view of the science of forestry and forest management in Delaware and the United States via lectures, films, and practicums. Course will include studies on forestry appreciation, timber types, harvesting practices regeneration, multiple use, and forest economics. Prerequisites: Test score or RDG 051 or ESL 100 or NCS 052 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

AGS 202 - Agronomic Crops ..... **(3:3:0)**
Principles and production, including fertilization, and tillage practices for major agronomic crops. Economics of production is also included. Prerequisites: (Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185) and AGS 101.

AGS 203 - Plant Identification ..... **(3:2:2)**
This course introduces principles of identification, cultivation, and maintenance of woody and herbaceous landscape plant materials. Prerequisites: AGS 101 and AGS 105

AGS 204 - Animal Science ..... **(3:2:2)**
An introduction to the types, breeds, and classes of livestock with emphasis on practical application in selection, breeding, feeding, etc., of important farm animals. Prerequisites: Test score or RDG 051 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and AGS 102

AGS 205 - Farm Machinery/Mgt ..... **(3:3:0)**
A general introduction and examination of modern farm equipment with emphasis on management factors, including decision making. Prerequisites: (Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185) and AGS 101.

AGS 207 - Floriculture ..... **(3:2:2)**
Principles of propagation and cultivation of commercial flower/foliage crops. Prerequisites: Test score or RDG 005 and Test score or ENG 005 and Test score or MAT 005 and AGS 103.

AGS 209 - Farm Records & Accounts ..... **(3:3:0)**
Examination of record keeping and accounting procedures as they apply to the production and marketing of agricultural products. Prerequisites: Test score or RDG 051 or ESL 100 or NCS 052 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

AGS 210 - Fundamentals of Aquaculture ..... **(3:3:0)**
Culture systems, procedures, and species which have direct or potential application in Delaware will serve as the base for technical instruction. Site selection, water quality, culture systems, feeding, disease, economics, regulation, reproduction, and product quality will be covered in detail. Prerequisites: Test score or RDG 051 or ESL 100 or NCS 052 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MA 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

AGS 212 - Intro to Agribusiness Marketng ..... **(3:3:0)**
This course is an introduction to Agriculture Marketing and all of the economic activities that are required to put the farm product in the hands of the consumer. Some of the topics we will cover in this class are processing, transporting, financing, storage, and marketing of a product. Students will study of the structure and function of the food marketing system, demand, supply and market price determination; marketing margins; product quality and grading. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or (ENG 121 or ENG 125) and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185 and BUS 101

AGS 213 - Landscape Plans ..... **(3:2:2)**
Introduction to problems in landscape planning including use of plant materials and elements of design, using computerized programs of design. Prerequisites: Test score or RDG 005 and Test score or ENG 005 and Test score or MAT 005 and AGS 101 and CIS 107

AGS 214 - Animal Health/Diseases ..... **(3:2:2)**
Introduction to basic methods of disease control, including resistance, immunity, therapy, hygiene, and sanitation as well as diagnosis of diseases of farm animals. Prerequisites: Test score or RDG 005 and Test score or ENG 005 and Test score or MAT 005 and AGS 204

AGS 215 - Agriculture Leadership ..... **(3:3:0)**
This course introduces students to the concept of leadership. Emphasis is placed on the application of acquired knowledge to practical problems. Prerequisites: Test scores or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test scores or RDG 051 or ESL 100 or RDG 120 and AGS 104

AGS 221 - Turfgrass Equipment Management ..... **(3:2:2)**
This course covers the operation and maintenance of specialized turfgrass management equipment. Topics include small engine use and repair; operation, maintenance and repair of turfgrass management equipment; organization of shop areas, and safety considerations. Upon completion the student should be able to operate and maintain turfgrass equipment. Prerequisites: AGS 122 and AGS 132.

AGS 222 - Putting Green Management.....**(3:2:2)**
This course deals exclusively with golf putting greens. Types of greens are identified. Design, construction, and maintenance of typical greens are presented. Students will develop a maintenance program for bent grass greens and apply many of these cultural practices to actual turfgrass areas in laboratory exercises. Prerequisites: AGS 101 and AGS 105 and AGS 122 and AGS 221.

AGS 224 - Turf & Athletic Fld Maintenanc.....**(3:2:2)**
This course introduces specific sports field design, installation, and maintenance. Topics include baseball, softball, soccer, and football fields. Upon completion, students should be able to perform specific tasks in layout, field marking, and preparing for tournament play. Prerequisites: Test score or ENG 051 and Test score or RDG 051 and Test score or MAT 012 and MAT 125 and AGS 101 and AGS 122 and AGS 221

AGS 225 - Agriculture Seminar.....**(3:3:0)**
This seminar is designed as a capstone course for Agribusiness Management students to aid them in the processes of obtaining employment within their career field. The students will have independent reading and research; preparation of abstracts, outlines; information on agriculture related topics; and a resume and plan for professional development within agribusiness. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

AGS 226 - Agribusiness Cooperative..... **(3:3:LAB_HOURS)**
The Applied Agriculture Agribusiness cooperative provides an opportunity for students to apply classroom and laboratory knowledge to actual work experiences. Students receive supervised work experience which enhances knowledge and provides experience within the Agriculture industry. Prerequisites: AGS 102 and AGS 104 and AGS 209

AGS 230 - Production Agriculture Co-op.....**(3:3:0)**
The Applied Agriculture Technologies Production Agriculture Cooperative provides an opportunity for students to apply classroom and laboratory knowledge to actual work experiences. Students receive supervised work experience which enhances knowledge and provides experience within the Production Agriculture industry. Prerequites: AGS 101 and AGS 102 and AGS 104 and AGS 105.

AGS 231 - Turfgrss Mgt. Co-op Education.....**(3:1:6)**
This course provides an opportunity for students to apply and combine classroom and laboratory knowledge to actual work experiences that focuses on a supervised work experience for students to gain knowledge and experience with the turf industry. Prerequisites: AGS 101 and AGS 104 and AGS 105 and AGS 123 and AGS 136

AGS 232 - Horticulture Cooperative.....**(3:1:6)**
This course provides an opportunity for students to apply and combine classroom and laboratory knowledge to actual work experiences. Its focus is a supervised work experience for students to gain knowledge and experience with the horticulture industry. Prerequisites: AGS 101 and AGS 104 and AGS 105

AGS 240 - Hydroponics Production.....**(3:2:2)**
This course will introduce students to principles and techniques of Hydroponic systems; preparation of a greenhouse for planting; transplant production; planting, cultural procedures and maintenance; product harvest. The students will produce vegetable and other crops using (NFT) Nutrient Film Techniques and BADO Bucket systems in a controlled environment. Prequisites: Test scores or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test scores or RDG 051 or ESL 100 or RDG 120 and AGS 105

AGS 241 - Trfgrss Wds Insts/Disease Ctrl. **(3:3:LAB_HOURS)**
This course covers detection and prevention of turf grass pests with the emphasis on methods of control or eradication. Topics will include weed, insects, and disease. The course also covers the use of pesticides, application procedures and total costs involved in the control programs. Upon completion, the student will be able to identify turf grass pests, select proper pesticides, and develop pest control programs. Prerequisites: AGS 123 and SCI 240

AGS 242 - Golf Course Operation & Maint.....**(3:2:2)**
This course covers a comprehensive study of the day to day and seasonal maintenance, and overall management programs of golf courses. Topics covered include calculations used in maintaining golf courses and buildings and grounds. Students will gain knowledge of golf course design and construction, materials handling equipment and storage of chemicals and fertilizers. The planning of daily work schedules and budget planning is also discussed. Prerequisites: AGS 123 and AGS 136

AGS 243 - Golf & Turf Irrigation.....**(3:2:2)**
This course will introduce students to basic irrigation and drainage principles, uses of irrigation and irrigation system design for landscape use. Prerequisites: AGS 101 and AGS 132

AGS 244 - Landscape Plans & Construction.....**(3:2:2)**
This course provides an introduction to problems in landscape planning including use of plant materials and elements of design, using computerized programs of design. Students are instructed in interpreting landscape designs, identifying landscape plants, and planting/maintaining trees and shrubs. Landscape construction is emphasized in the areas of grading and drainage, paver installation and the use/maintenance of landscape equipment. Current topic discussions provide students an understanding of careers and the employability skills needed to enter the landscape industry. Prerequisites: CIS 107 and AGS 101 and AGS 105

AGS 245 - Turf Management.....**(3:2:2)**
This course will teach students about the lawn care industry with an emphasis placed on the maintenance of a variety of turf sites, including chemical selections, pest control, and safe equipment usage. This course will include hands-on identification, cultivation and maintenance practices used on turfgrasses. Prerequisites: AGS 101 and AGS 105

AGS 250 - Greenhouse Crop Production.....**(3:2:2)**
The basic concepts of plant growth, development, photosynthesis, floral production, greenhouse structures, and equipment to monitor the environment are discussed and practiced in a lab setting. Propagation and cultivation techniques of commercial flower/foliage crops are studied and applied. Preparation of soil and amended media incorporating the use of fertilizers and plant growth regulators will be discussed and managed. Nutrient management of plants and environmental impacts of run-off are applied and discussed. Pesticide application and safety are practiced and studied. Proper pest identification techniques are practiced. Prerequisites: AGS 101 and AGS 105

AGS 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

AID 145 - Intr Styles Materials/Accents ..... **(4:3:3)**
This course gives interior design students an in-depth look at interior styles. Students learn about the furniture fabrics, wall coverings, flooring, ceilings, moldings, and accents that depict a particular style. Students prepare several projects for class presentation. Prerequisites: Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and VSC 115 and AET 125

AID 151 - Interior Detailing ..... **(4:3:3)**
This course explores the development of interior details such as molding, cabinetry, custom furniture, and carpet designs. Detailing will give the student the opportunity to design millwork and to prepare working drawings for custom walls and flooring. Prerequisites: AET 125.

AID 170 - Presentation Drawing/Rendering ..... **(4:3:3)**
Areas covered will be perspective and isometric drawings, ink and color presentations using the following forms of media: marker, color pencils, and shadowing techniques. The student will complete several assignments from planning to full-scale plans, renderings, presentation boards, and models. The student will present his/her projects to the class for critique; projects will include finishes, fabrics, draperies, furniture, and accessories. Prerequisites: VSC 115 and VSC 125 and AET 125.

AID 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

AID 224 - Cost Estimatg for Interior Des .. **(3:3:LAB_HOURS)**
This course will present preparation of interior material lists and take-off quantities of interior materials and labor costs from plans, working drawings, and specifications. Different methods of estimating will be presented including an introduction to project costing and scheduling using productivity software. Prerequisite: AID 145

AID 241 - Residential Design Studio ..... **(5:3:5)**
This course is an in-depth study of residential space planning and design with an emphasis on development and presentation of residential design projects. Students prepare comprehensive projects that incorporate knowledge from previous semesters. Prerequisites: AET 125 and AID 145

AID 242 - Commercial Design Studio ..... **(5:3:5)**
An in-depth study of interior commercial space planning and design. Students will be presented with a contract design problem which they will be required to take through design phases including programming, schematic, design development, and contract documents. Prerequisites: AID 170.

AID 244 - Hist of Architectural Int Desg ... **(3:3:LAB_HOURS)**
This course exams the history of architectural interior design styles and furniture evolution from antiquity to present. Prerequisite: AID 145

AID 265 - Profnl Practice of Intr Design ..... **(3:3:0)**
An in-depth look at interior business practices, including a complete project analysis from the client interview to delivery and installation. Prerequisites: AID 170 and (AID 241 or AID 242).

AID 274 - Interior Systems ..... **(3:2:2)**
This course will provide an introduction to the basic support systems: plumbing, heating, ventilation, artificial lighting as well as lighting fixtures and their importance to interior design compliance. Prerequisite: AID 145

AID 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

AMT 110 - Airframe Maintenance General ..... **(12:8:12)**
The General section of the Airframe Maintenance program will introduce students to the fundamentals of aircraft maintenance. The units of study are: mechanic privileges and limitations, aircraft physics, aircraft drawings, maintenance forms and records, maintenance publications, materials and processes, fluid lines and fittings, cleaning and corrosion, weight and balance. Prerequisites: Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

AMT 120 - Airframe Maintenance - AF I ..... **(11:7:13)**
The Airframe Maintenance section I of the Airframe Maintenance program will introduce students to the fundamentals of aircraft maintenance. The units of study are: ground operation and servicing, welding, aircraft non-metallic structures, aircraft sheetmetal structures, and wood structures, coverings and finishes. Prerequisites: AMT 110 and MAT 125

AMT 210 - Airframe Maintenance - AF II ..... **(12:8:12)**
the Airframe Maintenance section II of the Airframe Maintenance program will introduce students to the fundamentals of aircraft maintenance. The units of study are: assembly and rigging, position and warning systems, aircraft electrical systems, hydraulic and pneumatic power systems, and aircraft landing gear systems. Prerequisites: AMT 120 and ELC 122

AMT 220 - Airframe Maintenance - AF III ..... **(11:7:13)**
The Airframe Maintenance section III of the Airframe Maintenance program will introduce students to the fundamentals of aircraft maintenance. The units of study are: aircraft fuel systems, communication and navigation syistems, instrument systems, cabin atmosphere control systems, ice and rain control systems, fire protection systems, and airframe inspection. Prerequisites: AMT 210

AMT 230 - Powerplant Maint - Section I ..... **(14:9:14)**
This course introduces students to the fundamentals of powerplant maintenance. The units of study are reciprocating engine theory, reciprocating engine overhaul, reciprocating engine systems, reciprocating engine ignition and starting systems, reciprocating engine induction systems I, reciprocating engine induction systems II, reciprocating engine inspection, and troubleshooting. Prerequisites: (AMT 110 and MAT 125 and ELC 122) or possesses a FAA Airframe License

AMT 240 - Powerplant Maint - Section II ..... **(13:8:15)**
This course introduces students to the fundamentals of powerplant maintenance. The units of study are propeller systems, turbine engine theory, turbine engine maintenance, turbine engine systems, turbine ignition and starting systems, turbine engine induction systems, turbine inspection and troubleshooting. Prerequisite: AMT 230

ASL 101 - American Sign Language I ..... **(3:3:0)**
A study of American Sign Language (ASL), the natural Language of deaf people. This course will focus on the unique grammatical structure of ASL, its history, and its struggle for recognition as a language. Students will develop both expressive and receptive ASL. Prerequisites: None

ASL 102 - American Sign Language II .....**(3:3:0)**
A continuation of the fundamentals of American Sign Language I, this course will broaden students' range of conversational skills moving from discussion of their immediate experiences (home, family, etc.) to communication appropriate in an external environment (workplace, school, etc.). Both expressive and receptive skills will be developed. Prerequisites: ASL 101

ASL 103 - Fingerspelling/Nmbr use in ASL .....**(3:3:0)**
This course will offer students the opportunity to focus on fingerspelling and signing numbers. Both receptive and expressive work will be done. All practice will be in the context of authentic communication in American Sign Language. Both live models and videotape will be used. Prerequisites: ASL 102

ASL 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ASL 201 - American Sign Language III .....**(3:3:0)**
A continuation of the fundamentals of American Sign Language II, this course will broaden students' range of conversational skills, moving from discussion of their immediate experiences (home, family, etc.) to communication about more abstract concepts of the language in longer conversational dialogues. Both expressive and receptive skills will be enhanced. Prerequisites: ASL 102

ASL 202 - American Sign Language IV .....**(3:3:0)**
A continuation of the fundamentals of American Sign Language III, this course will broaden students' range of conversational skills, moving from discussion of their immediate experiences (home, family, etc.) to communication about more abstract concepts of the language in longer conversational dialogues. Both expressive and receptive skills will be enhanced. Prerequisites: ASL 201

ASL 203 - American Sign Language V .....**(3:3:0)**
Advanced study of American Sign Language (ASL). Students will study ASL in narrative form. This course will increase the communication skills of students to the more abstract concepts of the language including expressive and receptive skills. This class will be presented in ASL. Pre-requisite: ASL 202

ASL 204 - Structure-Amer. Sign Language .....**(3:3:0)**
An introduction to the structure of American Sign Language This course has a dual focus: one on ASL linguistics and the other on grammar. Students will use a variety of media to learn to construct accurate sentences in American Sign Language. Areas of grammar study include topic comments, rhetoricals, conditionals, and others. Prerequisites: ASL 102 and CLT 201

ASL 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

AUT 014 - Basic Automotive Technology.....**(2:1:2)**
This course is designed to provide the student an overview of the automotive repair field. Students are introduced to basic automotive maintenance and repair procedures as well as tools, measuring devices and diagnostic equipment. Prerequisites: None

AUT 016 - Basic Automotive Electrical.....**(4:3:3)**
This course introduces the student to various automotive electrical and electronic components, operations and service procedures. Laboratory experiences include: building and analyzing electrical circuits, applying Ohms Law, and using electrical test equipment properly. This course also prepares the student to test, diagnose and repair automotive electrical systems and components. Lab includes testing, evaluation and diagnosis, and repair of vehicle. Prerequisites: AUT 014

AUT 018 - Basic Steering & Suspension.....**(2:1:3)**
This course introduces the student to automotive suspension systems, components, and service procedures. Lab includes suspension steering service, and tire and wheel service. Prerequisites: AUT 016

AUT 019 - Basic Auto Brake Systems.....**(2:1:3)**
This course introduces the student to automotive brake systems, components, and service procedures. Lab includes hydraulic service, drum and rotor service, drum brake service, power brake service. Prerequisites: AUT 018

AUT 022 - Basic Auto Air Cond & Heating .....**(2:1:3)**
This course introduces the student to automotive heating and air-conditioning systems components, operations and service procedures. Lab experience includes system evaluation, diagnosis and repair. Prerequisites: AUT 019

AUT 099 - Intermediate Automotive Tech.....**(5:2:9)**
This course is a bridge course which contains the elements of fundamentals, electrical, steering and suspension, brakes and the HVAC system not covered in AUT 014, AUT 016, AUT 018, AUT 019 and AUT 022. Prerequisites: AUT 014 and AUT 016 and AUT 018 and AUT 019 and AUT 022.

AUT 101 - GM Automotive Fundamentals.....**(3:2:2)**
This course is designed to provide the student an overview of the automotive repair field. Students are introduced to basic automotive maintenance and repair procedures as well as tools, measuring devices and diagnostic equipment. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185 Co-requisite: AUT 161 and AUT 191

AUT 114 - Intro to Automotive Technology .....**(3:2:2)**
This course is designed to provide the student an overview of the automotive repair field. Students are introduced to basic automotive maintenance and repair procedures as well as tools, measuring devices and diagnostic equipment. Prerequisites: (Test Scores or ENG 051 or higher) and (Test Scores or RDG 051 or higher) and (Mat 012 or higher).

AUT 116 - Automotive Electrical.....**(5:4:4)**
This course introduces the student to various automotive electrical and electronic components, operations and service procedures. Laboratory experiences include: building and analyzing electrical circuits, applying Ohms Law, and using electrical test equipment properly. This course also prepares the student to test, diagnose and repair automotive electrical systems and components. Lab includes testing, evaluation and diagnosis, and repair of vehicle accessories and chassis wiring. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or MAT 005 or NCS 005 or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or

MAT 120 or MAT 125 or MAT 130 or MAT 135 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185 Co-requisite: AUT 114

AUT 118 - Auto Steering & Suspen/Align ..... **(3:2:3)**
This course introduces the student to automotive suspension systems, components, and service procedures. Lab includes suspension and steering service, wheel alignment, and tire and wheel service. Prerequisites: AUT 114 and AUT 116

AUT 119 - Automotive Brake Systems ..... **(3:2:3)**
This course introduces the student to automotive brake systems, components, and service procedures. Lab includes hydraulic service, drum and rotor service, disc brake service, drum brake service, power brake service and anti-lock brake service. Prerequisites: AUT 122

AUT 122 - Auto Air Conditioning/Heating ..... **(3:2:3)**
This course introduces the student to automotive heating and air-conditioning systems components, operations and service procedures. Lab experience includes system evaluation, diagnosis and repair. Prerequisites: AUT 119

AUT 123 - Work Experience I ..... **(3:0:9)**
This course requires students to work in the automotive/ light truck service field, to reinforce first year classroom and laboratory instruction. Diagnostic skills and repair knowledge are applied in a sponsoring service facility. Prerequisites: AUT 118 and AUT 119 and AUT 122

AUT 124 - Intro to Automotive Svc Career **(2:2:LAB_HOURS)**
An introduction to the automotive service profession including aspects of the career opportunities, work characteristics, and employment requirements for the individual interested in automotive service career. Prerequisites: Test score or ENG 005 or ENG 051 or NSC 051 or ESL 034 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 005 or NCS 005 or NCW 045 or MAT 075 or MAT 090 or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 181 and Test score or RDG 005 or RDG 051 or NCS 052 or ESL 032 or ESL 100 or RDG 120.

AUT 142 - GM Suspension Systems ..... **(3:2:3)**
This course introduces the student to General Motors automotive suspension systems, components, and service procedures. Labs include suspension and steering service, wheel alignment, and tire and wheel service. Prerequisites: AUT 101 and AUT 161 and AUT 191 and MAT 125. Co-requisites: AUT 151 and AUT 192

AUT 151 - GM Brake Systems ..... **(3:2:3)**
Introduces the student to General Motors automotive brake systems, components, and service procedures. Labs include hydraulic service, drum and rotor service, disc brake service, drum brake service, and power brake service. Prerequisites: AUT 101 and AUT 161 and AUT 191 and MAT 125. Co-requisites: AUT 142 and AUT 192

AUT 153 - Automotive Practicum I ..... **(4:0:12)**
In this course the students will work in the automotive/light truck service field, reinforcing first year first year classroom and laboratory instruction. At the student's sponsoring service facility, the student's newly acquired diagnostic skills and repair knowledge are utilized in a hands-on application manner. Prerequisites: AUT 114 and AUT 116 and AUT 118 and AUT 119 and AUT 122.

AUT 161 - GM Electrical Systems ..... **(5:4:4)**
Introduces the student to the various automotive electrical and electronic components, operations, service procedures. Lab includes building and analyzing electrical circuits, applying Ohms Law and using electrical test equipment properly. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or ESL 100 or NCS 052 or RDG 120 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185 Co-requisites: AUT 101 and AUT 191

AUT 162 - Principles of Automotive Tech. ..... **(3:3:0)**
This course is designed to provide the student with an overview of the automotive repair field. Students are introduced to automotive maintenance and repair procedures as well as tools, measuring devices and diagnosis equipment. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

AUT 163 - Principles of Service Advising ..... **(3:3:0)**
This course introduces the student to the field of service advising. The course reviews customer complaints and concerns and identifies the skills and attitudes required to be effective as a service advisor in the automotive field. Prerequisites: AUT 162

AUT 164 - Principles of Service Managmnt ..... **(3:3:0)**
The student is introduced to the field of Service Management in the automotive industry. The course reviews duties and responsibilities necessary to be an effective service manager in an operating automotive business. Prerequisites: AUT 162

AUT 165 - Principles of Parts Management ..... **(3:3:0)**
The student is introduced to the field of Parts Management in the automotive industry. The course reviews duties and responsibilities necessary to be an effective Parts Manager in an operating automotive business. Prerequisites: AUT 162

AUT 171 - GM Air Conditioning ..... **(3:2:2)**
Introduces the student to General Motors automotive heating and air-conditioning systems components, operations, and service procedures. Labs include component replacement, system purging, evacuating, charging, and testing. Prerequisites: AUT 142 and AUT 151 and AUT 192. Co-requisite: AUT 193

AUT 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

AUT 191 - GM Co-Op Work Experience I ..... **(3:0:16)**
This course is designed to reinforce classroom instruction with work experience at a General Motors dealership. The student works full-time as a student technician during the co-op period. At the dealership, the student puts newly acquired diagnostic and repair knowledge and skills into practice while working on customers' vehicles and performing daily dealership duties. Prerequisites: None Co-requisites: AUT 101 and AUT 161

AUT 192 - GM Co-Op Work Experience II ..... **(3:0:16)**
This course is designed to reinforce classroom instruction with work experience at a General Motors dealership. The student works full-time as a student technician during the co-op period.

At the dealership, the student puts newly acquired diagnostic and repair knowledge and skills into practice while working on customers' vehicles and performing daily dealership duties. Prerequisites: AUT 191 Co-requisites: AUT 142 and AUT 152

AUT 193 - GM Co-Op Work Experience III ..... **(3:0:16)**
This course is designed to reinforce classroom instruction with work experience at a General Motors dealership. The student works full-time as a student technician during the co-op period. At the dealership, the student puts newly acquired diagnostic and repair knowledge and skills into practice while working on customers' vehicles and performing daily dealership duties. Prerequisites: AUT 192 Co-Requisites: AUT 171

AUT 202 - Automotive Engine Repair ..... **(3:2:4)**
This course introduces the student to various automotive engines and related components, their operations and service and repair procedures. Laboratory activities include hands-on exercises on trainer/dead engines relating to the operation, servicing and repair of the engines as well as related engine systems: cooling, lubrication, exhaust, and related systems. Students will also perform live engine evaluation and diagnosis. Prerequisites: (Test Score or MAT 012 or NCS 012 or MAT 015 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181) and (AUT 123 or AUT 153)

AUT 203 - Automotive Engine Performance ..... **(6:3:9)**
This course prepares the student to diagnose, repair, and service automotive electronic systems and components. Laboratory exercises include diagnosis, disassembly, and repair of electronic components such as computerized engine controls, electronic ignition, electronic fuel injection, and other accessories. Prerequisites: AUT 202

AUT 205 - Manual Transmissions/Transaxle ..... **(3:2:4)**
This course introduces the student to various manual transmissions and transaxles and related components, including their operations and service and repair procedures. Laboratory activities include hands-on exercises on transmissions and transaxles as well as related systems and components. Prerequisites: (Test score or MAT 012 or NCS 012 or MAT 015 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181) and (AUT 123 or AUT 153)

AUT 208 - Automatic Transmissions ..... **(3:2:4)**
This course introduces the student to various automatic transmissions and transaxles and related components, their operations and service and repair procedures. Laboratory activities include hands-on exercises on transmissions and transaxles as well as related systems and components. Prerequisites: (Test scores or MAT 012 or NCS 012 or MAT 015 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181) and (AUT 123 or AUT 153)

AUT 211 - GM Engine Repair ..... **(4:3:3)**
Introduces the student to various General Motors automotive engines and related components, their operations, service and repair procedures. Labs include practical hands-on exercises on GM engines relating to their operation, service and repair as well as related engine systems: cooling, lubrication, exhaust, etc. Students will also perform engine evaluation, removal and installation. Prerequisites: AUT 221 and AUT 231 and AUT 294. Co-requisites: AUT 281 and AUT 295.

AUT 221 - GM Automotive Transmissions ..... **(4:3:3)**
This course introduces the student to GM automotive drive train components, operations and service procedures. Labs include service, removal and replacement of automatic transmission and transaxle. Prerequisites: AUT 171 and AUT 193 Co-requisites: AUT 231 and AUT 294

AUT 223 - Work Experience II ..... **(3:0:9)**
This course requires students to work in the automotive/ light truck service field, to reinforce second-year classroom and laboratory instruction. Diagnostic skills and repair knowledge are applied in a sponsoring service facility. Prerequisites: AUT 123

AUT 231 - GM Manual Transmissions ..... **(4:3:3)**
This course introduces the student to GM automotive drive train components, operations and service procedures. Labs include service, removal and replacement of manual transmission, drive shaft, differential, transaxle. Prerequisites: AUT 171 and AUT 193 Co-requisites: AUT 221 and AUT 294

AUT 253 - Automotive Practicum II ..... **(4:0:12)**
In this course, the students will work in the automotive/light truck service field, reinforcing second year classroom and laboratory instruction. At the student's sponsoring service facility, student's newly acquired diagnostic skills and repair knowledge are utilized in a hands-on application manner. Prerequisites: AUT 208

AUT 281 - GM Engine Performance ..... **(5:4:4)**
Prepares the student to diagnose and repair General Motors automotive electronic systems and components. Lab includes diagnosis, disassembly, and repair of electronic components: computerized engine control, electronic ignition, electronic fuel injection, and other accessories. Prerequisites: AUT 221 and AUT 231 and AUT 294. Co-requisites: AUT 211 and AUT 295.

AUT 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

AUT 294 - GM Co-Op Work Experience IV ..... **(5:0:24)**
This course is designed to reinforce classroom instruction with work experience at a General Motors dealership. The student works full-time as a student technician during the co-op period. At the dealership the student puts newly acquired diagnostic and repair knowledge and skills into practice while working on customers' vehicles and performing daily dealership duties. Prerequisites: AUT 193 Co-requisites: AUT 221 and AUT 231

AUT 295 - GM Co-op Work Experience V ..... **(5:0:24)**
This course is designed to reinforce classroom instruction with work experience at a General Motors dealership. The student works full-time as a student technician during the co-op period. At the dealership, the student puts newly acquired diagnostic and repair knowledge and skills into practice while working on customers' vehicles and performing daily dealership duties. Prerequisites: AUT 294 Co-requisites: AUT 211 and AUT 281

BAK 121 - Prin. of Bank Operation .....
(4:LECTURE_HOURS:LAB_HOURS)
Students employed by the banking industry who have an American Institute of Banking, Delaware Chapter transcript may apply for transfer credit for this course. Prerequisites: None

BAK 125 - Bank Cards ..... **(4:LECTURE_HOURS:LAB_HOURS)**
Students employed by the banking industry who have an American Institute of Banking, Delaware Chapter transcript may apply for transfer credit for this course. Prerequisites: None

BAK 154 - Deposit Operations ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students employed by the banking industry who have an American Institute of Banking, Delaware Chapter transcript may apply for transfer credit for this course. Prerequisites: None

BAK 175 - Law and Banking (4:LECTURE_HOURS:LAB_HOURS)
Students employed by the banking industry who have an American Institute of Banking, Delaware Chapter transcript may apply for transfer credit for this course.

BAK 176 - Law and Bank Application ..... **(2:LECTURE_HOURS:LAB_HOURS)**
Students employed by the banking industry who have an American Institute of Banking, Delaware Chapter transcript may apply for transfer credit. Prerequisites: None

BAK 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

BAK 254 - Supervisory Training ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students employed by the banking industry who have an American Institute of Banking, Delaware Chapter transcript may apply for transfer credit for this course. Prerequisites: None

BAK 261 - Analyzing Financial Statements ..... **(4:LECTURE_HOURS:LAB_HOURS)**
Students employed by the banking industry who have an American Institute of Banking, Delaware Chapter transcript may apply for transfer credit for this course. Prerequisites: None

BAK 265 - Marketing for Bankers ..... **(4:LECTURE_HOURS:LAB_HOURS)**
Students employed by the banking industry who have an American Institute of Banking, Delaware Chapter transcript may apply for transfer credit for this course. Prerequisites: None

BAK 270 - International Banking ..... **(4:LECTURE_HOURS:LAB_HOURS)**
Students employed by the banking industry who have an American Institute of Banking, Delaware Chapter transcript may apply for transfer credit for this course. Prerequisites: None

BAK 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

BIO 100 - Medical Terminology ..... **(3:3:0)**
The course includes Greek and Latin prefixes, suffixes, roots, abbreviations, names of diseases and operations related to hospital services and allied health specialties. Prerequisites: Test score or RDG 051 or RDG 120 and Test score or ENG 051 or ENG 121

BIO 101 - Advanced Medical Terminology ..... **(3:3:0)**
The course is designed for individuals who wish to continue the study of advanced medical terminology as it relates to clinical medicine, surgery, laboratory medicine, pharmacology, radiology, and pathology. It includes the use of medical references and other resources for research and practice. Prerequisites: BIO 100

BIO 106 - Basic Nutrition Concepts ..... **(1:1:0)**
This course is designed to teach basic nutrition concepts that can be applied to everyday life in order to maintain a healthy lifestyle and well-being. Prerequisites: None

BIO 108 - Basic Pharmacology ..... **(2:2:LAB_HOURS)**
Basic pharmacology for healthcare students includes basic drugs as related to diseases, effects of drugs on different systems of the body, interaction of drugs, side effects, contraindications and effectiveness in relation to dosages. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test Score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 and BIO 100

BIO 110 - EssentIs-Anatomy & Physiology ..... **(4:3:2)**
This course includes structure and function of the human body with an emphasis on gross anatomy. All organ systems and their relationship to homeostasis. Coordinated laboratory experiments are an itegral part of this course. Prerequisite: Test score or RDG 051 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125

BIO 115 - Nutrition ..... **(3:3:0)**
This course studies the basic principles of nutrition and its application to the health and well being of people throughout the life cycle. Diet therapy as an integral part of treatment during illness and disease status and diet as preventive therapy will also be studied. Prerequisites: Test score or RDG 051 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125

BIO 120 - Anatomy and Physiology I ..... **(5:4:2)**
This course, the first of a two semester sequence, studies the anatomy and physiology of humans. Included are the structure and function of cells, tissues, integumentary, skeletal, muscular, nervous, and endocrine systems. Coordinated laboratory experiments are an integral part of this course. Prerequisites: Test score or RDG 051 or ESL 100 or NCS 052 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125

BIO 121 - Anatomy and Physiology II ..... **(5:4:2)**
This course is a continuation of BIO 120 It covers the structure and function of the cardiovascular, respiratory, digestive, urinary and reproductive systems of humans, metabolism, fluid and acid-based balance, and genetics. Coordinated laboratory experiments are and integral part of this course. Prerequisites: BIO 120 and (CHM 100 or CHM 110 or CHM 150).

BIO 123 - Clinical Functional Anatomy ..... **(3:2:2)**
This course is a study of the muscular, skeletal and nervous systems of the human body focusing on the structure and function associated with various physical therapy and occupational therapy techniques. Prerequisite: BIO 121

BIO 124 - Review of Physiology ..... **(2:2:0)**
The course reviews the physiology of the endocrine system and the autonomic nervous system, neurophysiology, cardiophysiology, respiratory and renal physiology, as well as fluid, electrolyte and acid-base balance. Prerequisite: BIO 121

BIO 125 - Introductory Microbiology ..... **(4:3:2)**
This is an introduction to microbiology designed for individuals in the

health sciences. It explores the morphology, physiology, cultivation, and control of microorganisms, a survey of human pathogens and the fundamental concepts of immunity. Laboratory experiments are an integral part of this course. Prerequisites: BIO 120 or VET 102.

BIO 127 - Environmental Microbiology ..... **(4:3:2)**
Study of the microbiological organisms important in environmental ecology, pollution control, and waste treatment, including bacteria, algae, fungi, and protozoa. Explores the morphology, physiology, pathogenicity, and environmental importance of these organisms. Laboratory includes microscopic morphological studies, culture techniques, stains, and various environmental tests such as coliform analysis. Prerequisites: ENV 110

BIO 130 - Disease Proc/Pathophysiology ..... **(3:3:0)**
This course includes the study of the physiologic and biologic manifestations of disease and the adaptations that the body makes to the changes produced by the disease process. Prerequisites: BIO 120

BIO 140 - General Biology ..... **(4:3:2)**
This course represents an overview of biological concepts including basic cellular chemistry, cell structure and function, life processes, genetics, biodiversity of organisms, evolution and natural selection, human reproduction and development, and the interaction of organisms with their environment. Prerequisite: Test score or RDG 051 and test score or ENG 051.

BIO 150 - Biology I ..... **(4:3:2)**
This course studies the cell as the basis of life. Included will be an introduction to the chemistry of life, cell structure and function, cellular metabolism, cell division, molecular genetics, patterns of inheritance, and a survey of viruses, Monera, Protista, and Fungi. Prerequisites: Test score or RDG 051 or RDG 120 and Test score or ENG 051 or ENG 121

BIO 151 - Biology II ..... **(4:3:2)**
This course, a continuation of BIO 150, includes the structure and function of plants and a survey of the Kingdom Animalia. Particular emphasis is placed on comparative anatomy and physiology of vertebrates. Prerequisites: Test score or RDG 051 or RDG 120 and Test score or ENG 051 or ENG 121

BIO 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

BIO 250 - Principles of Microbiology ..... **(4:3:3)**
This is a general course in microbiology that covers microbial structure, metabolism, growth and control. Microbial genetics, virology and fundamentals of the immune system are included. Laboratory experiments are an integral part of this course. Prerequisites: BIO 120 or BIO 150 and CHM 100 or CHM 110 or CHM 150

BIO 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

BIT 260 - Biotechnology I ..... **(4:3:4)**
This course will discuss topics in the major areas of biotechnology including molecular biology, microbiology, separation technology, immunology, and plant biotechnology. Coordinated laboratory experiments will be an integral part of this course. Prerequisites: BIO 250 and CHM 151.

BIT 261 - Biotechnology II ..... **(4:3:4)**
This course is a continuation of BIT 260 - Biotechnology II investigates components of biomanufacturing such as upstream and downstream processing, protein structure, and laboratory regulations. Additional topics include current research and techniques such as bioinformatics, micro-propagation of plants, and microarrays. Laboratory work, including related experiments and current techniques, is an integral part of this course. Prerequisites: BIT 260

BIT 265 - Bioinformatics ..... **(3:2:2)**
This course studies the organization and analysis of biological information, involving the use of computers related to databases, retrieval mechanisms, and data analysis tools, especially in the fields of molecular biology, structural biology, and genetics. Included are sequence alignment, gene finding, genome assembly, protein structure alignment, protein structure prediction, the human DNA system and the Human Genome Project. Coordinated laboratory experiments are an ingegral part of this course. Prerequisites: (BIO 140 or BIO 150) and CIS 107.

BIT 270 - Honors Biotechnlgy Internship ..... **(2:0:7)**
Upon recommendation by the instructor, the student placed in this honors internship will gain experience working as a laboratory technician in research, industrial, service, manufacturing or other facility in the biology, biotechnology or related field. Prerequisites: BIT 260

BUS 100 - Acctg for Non-Accountants ..... **(3:3:1)**
An overview of accounting information for the non-business major. Emphasis is placed on the interpretation of accounting information. Attention is given not only to the basic concepts and structure of accounting and resultant financial statements but also to present and future value, inventory costing methods, depreciation, capitalization, and budgeting. Prerequisites: None

BUS 101 - Introduction to Business ..... **(3:3:0)**
This course is a survey of business functions, including forms of business ownership, business environments, ethics, management, production, marketing, financial markets, accounting, and global interest. Prerequisites: (((Test Scores or RDG 051 or higher) and (Test Scores or ENG 051 or higher)) or Test Scores or ENG 090 or concurrent or ENG 091 or concurrent or higher)

BUS 105 - Introduction to Exporting ..... **(3:3:0)**
Specifically proposed to meet the needs of all levels of employees, especially mid-management level, to enable them to know and perform export operations. This course surveys the basic knowledge and procedures necessary to package, ship, track, and insure merchandise as it moves through the international marketplace. Prerequisites: None

BUS 120 - Export Import Practices & Proc ..... **(3:3:0)**
Hands-on exposure to the importing/exporting process; proficiency in trade regulations, customs, freight forwarding; preparation of documentation necessary for financial transactions. Prerequisites: None

BUS 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

BUS 203 - Business Law ..... **(3:3:0)**
A survey course, which takes a general view of our legal system before focusing on the area of Business Law. Business Law topics include offer, acceptance, and consideration, competence of parties, the Statute

of Frauds, parole evidence and termination, and the U.C.C. Related topics include commercial paper, agency, and personal property law. Prerequisites: BUS 101 and (Test score or ENG 121 or ENG 125).

BUS 211 - Business Co-Op I.....**(5:0:15)**
Provides an opportunity for students to learn through experience the organization of the business in which they are employed, the analysis of duties and responsibilities, lines of authority, standards of work required, and formal and informal patterns of communication. A written formal report is required for credit. Prerequisites: None

BUS 212 - Business Co-Op II.....**(5:0:15)**
Provides an opportunity for students to learn through experience the organization of the business in which they are employed, the analysis of duties and responsibilities, lines of authority, standards of work required, and formal and informal patterns of communication. A written formal report is required for credit. Prerequisites: None

BUS 213 - Small Business Management.....**(3:3:0)**
Presents critical areas that concern a small business, including selecting a type of business, planning and organization, capital requirements and sources, basic accounting, location and layout, and employee relations. Prerequisites: ENG 121

BUS 214 - Investments.....**(3:3:0)**
Analysis of the requirements for a sound investment program including stocks, bonds, mutual funds, options, commodities, and other private and public securities. Includes the functions of markets, sources of information, portfolio theory, and risk analysis. Prerequisites: BUS 101 and ACC 112 and ENG 121

BUS 269 - Research Report.....**(3:3:0)**
Designed to meet the needs of accounting and marketing/ management students for specific research related to the student's major study area. Prerequisites: ENG 122

BUS 275 - Portfolio/Experiential Lrning.....**(3:3:1)**
This course prepares students with the workplace skills necessary for professional job placement. Emphasis is given to self-assessment techniques, career planning tools and professional workplace behavior. The student will construct a professional portfolio that includes work samples, a job search package and a reflection on the required Experiential Learning component. Prerequisites: ACC 112 and BUS 101 and MGT 212 and MKT 212

BUS 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

BUS 291 - Business Ethics Honors.....**(3:3:0)**
This course will be devoted to an examination of some of the ethical and contemporary issues which arise in the field of business. Specific topics include ethical considerations in economics, politics, marketing, management, accounting, computer information, office systems, and other issues as appropriate. In addition to the course outline of BUS 221, Business Ethics honors includes an appropriate approved project. Prerequisites: BUS 101 and ENG 121

CEN 100 - Intro Elec & Computer Eng Tech.....**(3:2:2)**
This course introduces the practice of electronic engineering technology concepts. Career opportunities, professional ethics, working in teams, introduction to engineering problem solving, and use of calculators and computers as tools for problem solving are covered. Prerequisites: (Test Score or MAT 012 or higher) and ((Test Sscore or ENG 051 or concurrent or higher) and (Test Score or RDG 051 or concurrent or higher)) or (Test Score or ENG 099 or concurrent or higher)).

CEN 105 - Programming for Technology.....**(3:2:2)**
An introduction to object-orientated programming using electronics and computer technology related exasmples. Topics to be covered: Algorithms, flowcharting, documentation, testing and debugging, and programming techniques. Prerequisites: ELC 118 or ELC 120 and Test score or MAT 015 or MAT or 016 or NCW 045 or MAT 075 or MAT 181 or MAT 182 or MAT 185 or MAT 281 and Test score or and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125and Test score or RDG 051 or ESL 100 or RDG 120

CEN 110 - Computers & Technology.....**(3:2:2)**
An introduction to the computer as used in technologies. Both the IBM and Macintosh computing environments will be explored. Topics to be covered will be terminology and use of the computer through computer-aided-sketching and graphics, basic data communications terminology, introductory DOS operations as well as word processing, spreadsheeting, and databasing. Hands-on activities are emphasized. Prerequisite: Test score or RDG 051

CEN 120 - PC Telecommunications.....**(4:3:2)**
An overview of basic telecommunication's principles as applied to personal computer communications. Topics include installing modem software, electronic mail systems, file archiving and transmission techniques, network basics, telephone line installation and operation, FAX communications, RS 232 interface, and modem installation and operation. Prerequisites: Test Score or MAT 015 or MAT 016 and ELM 110 or CEN 110 or ELC 110.

CEN 126 - Industrial Networks.....**(3:2:2)**
This course introduces students to the network devices, standards, protocols, and security requirements used to connect industry and medical field devices together. Prerequisites: (Test Scores or MAT 012 or NCS 012 or MAT 015 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 181) and (Test Scores or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test Scores or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120)

CEN 150 - Computer Assembly/Maint.....**(4:3:2)**
This course provides the fundamentals of supporting and troubleshooting computer hardware and software. Topics include installing and replacing major hardware components; designing and constructing complete systems; and installing, configuring, and troubleshooting various operating systems. Prerequisites: (Test score or ENG 051 or higher) and (Test score or RDG 051 or higher) or Test score or (ENG 090 or ENG 090 concurrent) or (ENG 091 or ENG 091 concurrent) or higher.

CEN 160 - Computer Graphics I.....**(4:3:2)**
An introduction to computer graphics using a graphical application program such as COREL Draw. Students will learn the basic operation of the computer and the application program by completing projects comparable to those in the graphics industry. IBM and Macintosh computers will be used. Prerequisite: Test Score or RDG 051 and CEN 110 or ELM 110

CEN 161 - Computer Graphics II.....**(4:3:2)**
A continuation of Computer Graphics I. Advanced operations and

techniques will be covered. Projects for industrial applications will be completed by the student. Prerequisites: CEN 160

CEN 180 - C/C++ Language Intro ..... **(4:3:2)**
This course introduces object-oriented programming using electronics and computer technology related examples. Topics include algorithms, arrays, documentation, flowcharting, input/output functions, loops, pointers, structures, testing and debugging, and programming techniques. Prerequisites: ELC 125 or ELC 125 concurrent

CEN 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CEN 200 - Introduction to MATLAB ..... **(2:1:2)**
This course provides an introduction to the basic principles of programming and implementation of mathematical and electrical engineering technology concepts using MATLAB. Prerequisites: (CEN 180 or CIS 120 or CSC 114) and (ELC 225 or ELC 266 or concurrent) and (MAT 182 or MAT 185 or MAT 281)

CEN 220 - Digital Data Comm w/ Networks ..... **(4:3:2)**
A study of computer interfacing and networking. Interface techniques such as RS 232, RS 422, etc. will be covered. UARTs and advanced modem operation are presented. Networking through simulations and observation are included with telephone switching systems. Prerequisites: CEN 120

CEN 222 - Windows Operating System ..... **(4:3:2)**
This course is designed to teach the student about the installation, configuration, and maintenance of Windows, both the workstation and server versions. It will cover Windows peer-to-peer networking capabilities and its integration with other network environments, including the World Wide Web. Prerequisites: CEN 120

CEN 223 - Unix Opertng System & Networks..... **(4:3:2)**
A complete coverage of the UNIX operating system, including shells, utilities, x-windows, and networking. Prerequisites: CEN 222

CEN 224 - Computer Networks..... **(4:3:2)**
Students will learn basic networking concepts, features and functions of network components. Students will install, configure and troubleshoot basic network hardware, peripherals and protocols, Server 2003, Unix/Linux, and wireless networks. This course covers CompTIA Network+certification objectives. Prerequisites: CEN 150 and (ELC 118 or ELC 120 or ELC 124).

CEN 225 - Intro to Network Security..... **(4:3:2)**
Students will learn network security basics, vulnerabilities of operating systems, network security objectives, architecture, models, policy and differnet layers of security. This course will help students prepare for CompTIA Security+ exam. Prerequisites: (ELC 118 or ELC 120 or ELC 124) and ELC 130 and CEN 150 and CEN 224.

CEN 230 - Troubleshooting Computer Sys ..... **(3:2:2)**
A study of software and hardware problems, identification of bad components, mechanical problems, and other operational failures of microcomputer equipment. The course will include the use of diagnostic software, installation of software drivers, and installation of new hardware and software. Logic analysis methods, software, and devices will be used. Prerequisites: CEN 150 and ELC 130.

CEN 232 - Adv Computer Troubleshooting..... **(4:3:2)**
A continuation of CEN 230. Board level troubleshooting and repair will be covered. Peripheral equipment operation and repair also will be included. Prerequisites: CEN 230

CEN 235 - Fiber Optics with Networks ..... **(4:3:2)**
This course covers fiber optic to include principles of fiber optics, its components, system design, completed systems, test equipment, industrial applications, and fiber optic data networks (FDDI). Prerequisites: CEN 120 and ELC 130.

CEN 250 - Data Structures in C..... **(4:3:2)**
Topics to be covered are introductory concepts of C, arrays, structures, pointers, preprocessor, and file I/O. Laboratory assignments in those areas are given. Prerequisites: CEN 120 or CIS 120.

CEN 255 - Adv Data Structures in C++..... **(4:3:2)**
This course covers the C++ language to include structures unique to C++. Object-oriented programs will be introduced. Laboratory assignments are oriented to the IBM-PC and/ or VAX minicomputer. Prerequisites: CEN 250

CEN 280 - Specific Prob in Engr Techno ..... **(4:3:2)**
Special problems in programming, hardware, or interfacing as assigned by the instructor. Prerequisites: CEN 223 and CEN 220.

CEN 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CEN 290 - Internship..... **(4:1:9)**
Applied experience through a supervised work situation such as a campus repair shop, computer store or related business and industry. Prerequisites: CEN 223 and CEN 220.

CET 125 - Civil & Envl Drafting & Design ..... **(4:2:5)**
This course introduces students to drawing and design problems encountered in the area of Civil & Environmental Engineering. Topics include site analysis, site layout, grading and drainage, utility layout and profiles, erosion control and sustainable site design. Design and Develop a commercial site design and produce the drawing set to include Existing Features Plan, Record Plan, Grading Plan and Erosion Control Plan. Prerequisites: (Test score or RDG 120) and (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 075 or MAT 090 or MAT 140 or MAT 153 or MAT 181 or MAT 185 or MAT 281)

CET 135 - Engineering Materials ..... **(3:2:2)**
This course is an introduction to the nature, origin, properties, and use of construction materials encountered in the area of Civil and Environmental Engineering. Materials covered include wood, timber, steel, non-ferrous metals, stone, brick, Portland cement, Portland cement concrete, asphalt, and asphalt paving products. Laboratory testing and investigation of the materials are included. Prerequisites: (Test Scores or ESL 100 or RDG 120) and (Test Scores or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test Score or MAT 140 or MAT 153 or MAT 181 or MAT 185)

CET 144 - Surveying Principles ..... **(4:3:3)**
Theory and practice of plane surveying including the use of tapes, levels, transits and theodolites. Problems in triangulation, traverse and mapping, computation of areas. Introduction to construction and route

surveys. Preliminary and final route location surveys, horizontal curves, grade lines, vertical curves, cross sectioning, earth work computations, and slope staking. Prerequisites: MAT 181 and Test score or RDG 120

CET 146 - Surveying ..... **(3:2:3)**
Theory and practice of plane surveying including the use of tapes, levels, theodolities, lasers, and total stations. Students will complete problems in leveling traversing, mapping and construction surveying. A strong emphasis is placed on field procedures and gathering and recording of data. Prerequisites: Test score or MAT 015 or MAT 016 or MAT 181 and Test score or RDG 120

CET 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CET 225 - Civil CAD Applications ..... **(3:2:3)**
This course provides advanced Computer Aided Drafting and Design (CADD) practices encountered in the Civil Engineering field. Topics covered include topographic survey and analysis, residential lot layout, street layout, profiles and sections, utility layout and profiles, grading and structural applications. Students receive a working knowledge in Civil CADD site modeling and surveying applications. Prerequisites: CET 125 and EDD 171 and (MAT 181 or MAT 185 or MAT 281) and (Test Scores or ESL 100 or RDG 120) and (CET 144 or CET 144 concurrent)

CET 230 - Principle of Environmental Sys ..... **(4:3:3)**
Basic principles of fluid mechanics and their application in the design of civil engineering projects. Topics covered include the pressure-elevation relationship, forces on submerged planes, Bernoulli equation, energy losses, open channel flow, culvert design, rational and SCS rainfall methods, and the design of detention basins, water supply and waste water systems. The topics of erosion control and wetlands are introduced. Prerequisites: CET 256

CET 234 - Prin. of Geotechnical Engineer ..... **(4:3:2)**
Application of principles of soil engineering including the study of physical and mechanical properties of soils. Soil exploration, soil compacting, flow of water in soils, stress distribution in soil, consolidation of soil and settlement of structures, shear strength of soil, shallow and deep foundations, and stability analysis of slopes are studied. Laboratory work involves problem solving and experiments. Prerequisites: CET 256

CET 236 - Soils ..... **(3:2:2)**
Principles of soil engineering including the study of physical and mechanical properties of soils, design considerations, and construction applications. Emphasis is placed on field and laboratory identification and testing. Prerequisites: Test score or RDG 120 and MAT 181

CET 238 - Concrete and Asphalt ..... **(3:2:2)**
Practical knowledge of portland concrete cement and bituminous concrete including aggregate, cement and asphalt. Emphasis is placed on field and laboratory testing for quality control. Prerequisites: Test score or RDG 120 and MAT 181

CET 240 - Hydraulics and Hydrology ..... **(4:3:3)**
This course applies the basic principles of hydraulics as related to the design of pipe distribution system, the sizing and selection of pumps, open channel flow, flow through hydraulic structures, and the elements of hydrology, including rainfall runoff analysis, drainage design, and flood flow analysis. Prerequisites: (Test score or RDG 120) and (MAT 181 or MAT 185 or MAT 281) and (CET 125 or CET 144 or CET 146).

CET 244 - Principles of Site Development ..... **(4:3:3)**
Fundamental concepts of site and subdivision planning. Consideration given to zoning and subdivision ordinances, and governmental regulations. Site design project will include design calculations and complete construction drawings for a small subdivision. Prerequisites: CET 125 and CET 144 and CET 230

CET 245 - Advanced Surveying Principles ..... **(4:3:3)**
The study of the methods and computations of advance surveying. Students learn surveying techniques based on the Global Positioning System (GPS) including static and kinematic surveying. Additional topics covered include control surveys and geodetic reductions, state plane coordinates, surveys of public lands, photogrammetry, and an introduction to geographic information systems (GIS). Prerequisites: (CET 144 or CET 146) and (CET 125 or CET 251 or CET 251 concurrently).

CET 247 - Route Surveying and Design ..... **(3:2:3)**
This course introduces fundamental principles of highway and road design to include safety, speed, terrain, and operating volumes as they apply to roadway width, side slopes curvature, and gradient. Design problems include horizontal curves, compound curves, cross-section areas and volumes, and vertical curves with road alignments. Prerequisites: CET 144 and CET 125 and EDD 171 and (Test scores or ENG 121 or ENG 125) and (Test scores or ESL 100 or RDG 120)

CET 248 - Boundary Surveying and Law ..... **(3:3:0)**
Students study the fundamentals of boundary control and legal principles associated with land surveying. Problems dealing with boundary control and location, site development, topographic mapping, subdividing, contour/runoff, and other common land surveying practices are covered. Students use total stations and computers to process data. Prerequisites: CET 144 or CET 146.

CET 251 - Topographic Drafting ..... **(3:2:3)**
Application of drafting skills to areas of civil drafting including plots, profiles, topographic mapping, contours, cuts, and fills. Assignments will include site plans, highway layout, and subdivision. Prerequisites: (AET 123 or AET 125) and (CET 144 or CET 146) and EDD 171.

CET 256 - Static & Strength of Materials ..... **(5:4:2)**
Topics include the fundamental principles of engineering mechanics including the analysis of force systems on rigid bodies in static equilibrium. Students will also study stresses and strains found in materials subjected to axial, shear, and bending stresses. (The laboratory experiments illustrate the physical properties of materials, the physical basis of stress and strain analysis and the techniques of materials testing. All students are required to prepare laboratory reports.) Prerequisites: Test score or RDG 120 and MAT 181

CET 258 - Statics with Calculus ..... **(3:3:1)**
This course covers particles, rigid bodies, trusses, frames and machines. Students study rigid objects that are either at rest or move with a constant velocity and that are subject to forces. Topics include calculating forces acting on and within such objects to understand their behavior and to inform their design. Prerequisites: MAT 281 and PHY 281

CET 270 - Solid Mechanics with Calculus ..... **(3:3:1)**
The course covers topics including the concepts of stress and strain, plane stress, transformation of stress and strain, Mohr's circle, material properties, and stress-strain relationships. This course provides determination of stresses and displacements

in axially loaded members and pressure vessels, stresses and displacements in round bars subject to torsion, impact, and dynamic loads. The basic mechanics for the design and analysis of simple structures, and mechanics of deformable bodies is included. Prerequisites: CET 258 and (Test Scores or ESL 100 or RDG 120)

CET 271 - Structural Design I ..... **(4:3:3)**
Introduction to elastic design of structural steel framing members. A thorough knowledge of the American Institute of Steel Construction Manual and orderly computation procedures is required. Laboratory work involves the preparation of engineering drawings and shop details for a building with emphasis on structural steel members and connections. Prerequisites: CET 256 and PHY 171

CET 272 - Structural Design II ..... **(4:3:3)**
Introduction to working stress and strength of reinforced concrete. A thorough knowledge of the ACI Building Code is required. Engineering drawings and details are prepared for an industrial design project with emphasis on reinforced concrete structures. Prerequisites: CET 271

CET 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CHM 050 - Chemistry Fundamentals ..... **(3:2:2)**
This course is designed for students with little or no chemistry background. The student will explore the basic foundations of chemistry, including the fundamentals of measurement, chemical bonding, nomenclature, physical and chemical changes, chemical equations and the gas laws. Prerequisites: Test score or RDG 051 or ESL 100 or NCS 052 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 150 or MAT 015 or MAT 016 or NCW 045 or MAT 075 or MAT 141 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 251 or MAT 261 or MAT 281

CHM 100 - Basic Chemistry ..... **(3:2:2)**
This preparatory course in the basic concepts of chemistry includes the systems of measurement, matter and energy, atomic theory, periodic table, bonding, nomenclature, equations, gases, liquids and solids, acids and bases, organic and biochemistry. Laboratory experiments are used to illustrate theory. Prerequisites: Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test Score or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 135 or MAT 140 or MAT 141 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 251 or MAT 261 or MAT 281 and Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120.

CHM 101 - Introduction to Chemistry ..... **(1:1:0)**
This course is designed for students with no chemistry background. It is an introduction to basic concepts of chemistry, concentrating on chemical bonding, physical and chemical changes, types of chemical reactions, acids, bases, and salts. Prerequisite: None

CHM 110 - General Chemistry..... **(4:3:2)**
This course is designed for students majoring in technical areas other than chemistry. It includes chemical reactions, the metric system, structure of matter, nomenclature, gases, solutions, acids, bases, and nuclear chemistry. Laboratory experiments are used to illustrate theory. Prerequisites: (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 015 or MAT 075 or NCW 045 or MAT 090 or MAT 135 or MAT 140 or MAT 141 or MAT 153 or MAT 181 or MAT 182 or MAT 185 oor MAT 251 or MAT 261 or MAT 281).

CHM 111 - Intro to Organic & Biochemstry..... **(4:3:2)**
This course includes a study of the structure and reactions of organic compounds and a basic survey of biochemical reactions involving carbohydrates, lipids, and proteins and their metabolism. A laboratory sequence illustrates theory. Prerequisites: CHM 110

CHM 115 - Chemistry of Hazardous Matl..... **(3:3:0)**
This course examines the properties and behavior of the principle types of hazardous materials, and their proper storage, handling, transportation and disposal. A survey of pertinent legislation and incident response techniques is presented. Discussion is supplemented with laboratory demonstrations. Prerequisites: CHM 110

CHM 130 - Environmental Chemistry..... **(4:3:3)**
This course is the application of chemistry to the environmental field. Covered topics include the environmental chemistry of water, soil and air. Laboratories include the standard methods of detection and quantitative analysis of these parameters. Prerequisites: CHM 111 and ENV 110

CHM 140 - Basic Organic Chemistry ..... **(4:3:2)**
A study of organic compounds and reactions and their applications as they relate to energy, plastics, hazardous materials, the environment and health. A laboratory sequence illustrates theory. Prerequisites: CHM 110

CHM 150 - Chemical Principles I ..... **(5:4:3)**
This course is the first of a two-semester sequence for science and engineering majors. Topics covered include atomic and molecular structure, nomenclature, chemical reactions, stoichiometry, oxidation-reduction, thermo- chemistry, electronic structure of atoms, chemical bonding, gases, liquids and solids. Laboratory experiments are used to illustrate theory. Pre-requisites: (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 140 or MAT 153 or MAT 181 or MAT 185) and CHM 100 or CHM 110

CHM 151 - Chemical Principles II..... **(5:4:3)**
This course is a continuation of CHM 150. Topics covered include acids and bases, kinetics, equilibria, thermochemistry, oxidation-reduction systems, electrochemistry and nuclear chemistry. Laboratory experiments are used to illustrate theory. Prerequisites: CHM 150 and MAT 181 or MAT 153

CHM 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CHM 240 - Organic Chemistry I ..... **(4:3:3)**
This course is a study of the molecular structure, bonding, nomenclature, properties and reactions of alkynes, cycloalkanes, alkenes, dienes, alkynes, and aromatic hydrocarbons. Stereochemistry is also discussed. The laboratory consists of isolation, purification and synthesis techniques related to the above. Prerequisites: CHM 150

CHM 241 - Organic Chemistry II..... **(4:3:3)**
This course is a continuation of CHM 240. It studies molecular structure, bonding, nomenclature, properties and reactions of

alcohols, phenols, halogenated hydrocarbons, ethers, aldehydes, ketones, carboxylic acids, carboxylic acid derivatives, and amines. The laboratory consists of isolation, purification and synthesis techniques related to the above. Prerequisites: CHM 240

CHM 245 - Intro to Industrial Chemistry ..... **(4:4:0)**
Chemical processes are considered from raw materials to products. Included are materials handling, unit operations, measurements, safety in the chemical workplace, industrial chemicals, and petrochemicals. Synthesis, properties and uses of polymers are also studied. Prerequisites: CHM 240

CHM 250 - Analytical Chemistry I ..... **(5:4:4)**
This course is the first of a two-semester sequence covering quantitative analysis. Analytical processes and procedures, good laboratory practices, statistics, sampling, chemical equilibria, and High Performance Liquid Chromatography (HPLC) analysis will be examined. Laboratory experiments are used to illustrate theory. Pre-requisites: CHM 151 and CIS 107

CHM 251 - Analytical Chemistry II ..... **(4:3:4)**
This course is a continuation of CHM 250. Visible, UV and atomic absorption spectroscopy, thin layer, gas and liquid chromatography and capillary electrophoresis will be covered. Prerequisites: CHM 250

CHM 265 - Biochemistry ..... **(4:3:4)**
This course emphasizes the chemical structure and function of amino acids, carbohydrates, lipids, proteins, nucleic acids, enzymes, cellular metabolism. Laboratory will stress separation, identification, and quanitation techniques. Prerequisite: CHM 241 and CHM 250

CHM 270 - Honors Chem Techn Internship ..... **(2:0:7)**
Upon recommendation by the instructor, the student placed in this honors internship will gain experience working as a laboratory technician in a research, service, industrial, manufacturing or other facility in the chemical industry or related field. Prerequisites: CHM 151 and instructor's permission.

CHM 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CIS 101 - Computers in Allied Health ..... **(2:2:0)**
This course is designed to familiarize Allied Health students with microcomputers. It provides students with hands-on experience with the basic application software (word processing, spreadsheets, and data bases). It also provides students with an understanding of the roles of computers in the health care industry. Prerequisite: Test score or RDG 051

CIS 107 - Intro to Computers/Application ..... **(3:2:2)**
This course is an overview of the computer information systems concepts. Students will learn how to use an Operating System and common PC applications such as word processing, spreadsheets, presentation, and database software. This course also includes an introduction to the internet. Prerequisites: Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or ENG 005 or ENG 051 or NCS 051 or ESL 034 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or MAT 012 concurrent or NCS 012 or NCS 012 concurrent or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

CIS 112 - Spreadsheet/Graphics Proc ..... **(3:2:2)**
Students learn to analyze business problems with planning sheets and worksheet sketches, A microcomputer spreadsheet software package is then used for problem solving and decision-making. Students also learn to use spreadsheet graphics tools to create charts, graphs, and slides for presentations. Prerequisites: CIS 107 or CIS 110 or CIS 120 or CIS 125

CIS 118 - Intro to Relational Databases ..... **(3:3:0)**
This course will focus on the fundamentals of realtional databases to include concepts, terms, and design considerations. It will explore database entity relationships, data normalization, and data modeling. Students will learn structure, concepts, and methods to create, insert, and query data in the database. Prerequisites: Test score or MAT 015 or MAT 016 or NCW 045 or MAT 075 or MAT 141 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 251 or MAT 261 or MAT 281 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and (CIS 107 or CIS 120)

CIS 120 - Intro to Programming ..... **(4:3:2)**
An introduction to programming with a high level procedural language covering development of algorithms, flowcharting, documentation, testing and debugging, and programming techniques. Topics include logic, functions, arrays, sorting data types, file manipulation, and data structures. Prerequisites: (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185) and (Test score or MAT 015 or MAT 016 or NCW 045 or MAT 075 or MAT 090 or MAT 135 or MAT 140 or MAT 141 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 251 or MAT 261 or MAT 281).

CIS 121 - Expert Systems ..... **(3:2:2)**
This course introduces expert systems as a component of artificial intelligence. It is a skill development course in which students develop, and implement small expert systems using current expert system shells and tools. Prerequisites: CIS 120

CIS 125 - Window Based Operating Systems ..... **(4:3:2)**
This course is an overview of graphic user interfaces (GUI) with an emphasis on personal computers. The student will learn to use a graphical user interface such as Microsoft Windows, to install, optimize, and operate a GUI, to allocate and manage system resources, and to establish communications links between objects. Prerequiaites: Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

CIS 130 - Computer Organization ..... **(3:2:2)**
The computer is introduced as a hierarchy of levels. Topics include digital logic, micro-programming, memory, input/output (I/O) computer arithmetic, instruction sets, central processing unit (CPU) structure, control unit operation, parallel organization, reduced instruction set computers (RISC), and assembly language. Prerequisite: CIS 120 or CSC 114

CIS 140 - Computer Architecture ..... **(3:2:2)**
The course covers the internal function and organization of digital computers and the interrelationship between operating systems and architecture. Topics include instruction sets, addressable methods, I/O architecture, CPU organization, machine

and assembly language, as well as basic concepts of logic as applied to computing. Prerequisites: CIS 120 and CIS 141.

CIS 141 - Operating Systems I ..... **(3:2:2)**
This course is an overview of two computer operating system. Students will be introduced to Windows 7 and Linux and given hands-on training. Prequisites: (Test score or RDG 051 or NSC 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185)

CIS 145 - Networks/Distributed Sys ..... **(4:3:2)**
The upper layers of ISO OSI model and the principles of distributed operating systems will be developed. Existing protocol suites such as TCP/IP, MAP, and/or TOP will be examined. Distributed file systems such as NFS and/or Andrew will be considered. Prerequisites: CIS 120

CIS 146 - Computer Networking I ..... **(4:3:2)**
This is part one of a two-part course covering the design, installation, maintenance and support of computer networks. The upper layers of ISO OSI model and the principles of distributed operating systems will be developed. Existing protocol suites such as TCP/IP, MAP, and/or TOP will be examined. Distributed file systems such as NFS will be considered. Prerequisites: CIS 120

CIS 150 - Intro to Objct-Orntd Prgrmmng ..... **(3:2:3)**
This course introduces object-oriented programming and the construction and manipulation of classes and objects. Object-oriented programming concepts, algorithms, techniques, and libraries are also reviewed. Prerequisite: CIS 120

CIS 160 - Internet/Web Construction ..... **(3:2:2)**
This course covers internet with emphasis on World Wide Web. Topics include constructing and administrating a web server, and developing web applications. Prerequisites: CIS 120 or CIS 125.

CIS 170 - Internet/Web Multimedia ..... **(3:2:2)**
This course introduces the creation of internet/web multi- media objects which are then used in presentations, productions, web publishing, and other multimedia-related applications. Prerequisites: CIS 120 or CIS 125

CIS 180 - Internet/Script Programming ..... **(4:3:2)**
In this course, student will learn how to work with Dynamic HTML to enhance Web page visual design/presentations and how client- and server-side scripts (such as JavaScript, VBScript) are used in Web programming to dynamically manipulate Web page contents. Prerequisites: CIS 120 and CIS 160.

CIS 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CIS 190 - Network Inst/Maintenance ..... **(3:2:2)**
This course introduces the student to local area network (LAN) fundamentals and terminology. Topics include selection of LAN interface cards, cable, wiring plans, server operating systems software and hardware; merging of two different LANS into existing networks; and isolating and diagnosing LAN software and hardware problems. Prerequisite: CIS 110 or CIS 120 or CIS 125

CIS 194 - Networking Technologies ..... **(3:3:1)**
This course provides students with a networking operating system-independent overview of networking media, topologies, standards, implementations issues, and troubleshooting techniques, and provides students with the prerequisite knowledge to prepare for CompTIA's Network+ certification exam. Prerequisites: CIS 195

CIS 195 - Network Administration ..... **(4:3:2)**
This course introduces the student to local area network (LAN) management and administration. Topics include data communications, workstation services, network directories, user account management, printer sharing, security, electronic mail, scheduling software, installation and maintenance of third-party software. Prerequisites: CIS 107 or CIS 120.

CIS 196 - Computer Networking II ..... **(4:3:2)**
This is part two of a two-part course covering the design, installation, maintenance and support of computer networks. This course covers Local Area Network (LAN) fundamentals and terminology. Topics include selection of LAN interface cards, cable, wiring plans, server hardware and operating system software; configuration and installation of two or more different LANs; LAN maintenance; integrating LANs into existing networks; and isolating LAN software and hardware problems. Prerequisites: CIS 146

CIS 197 - Network Adv Admin (MS) ..... **(4:3:2)**
This course covers advanced administrations and supports for Microsoft networks and prepares the student to take the appropriate Microsoft MCSE certification exams. Prerequisites: CIS 192

CIS 199 - Data Comms & Networking ..... **(3:2:2)**
This course covers fundamental data communications, concepts and components, networking models, transmission rules, local area network (LAN) and wide area network (WAN) protocols, wiring and distribution, topologies, and error detection and and correction methods. Prerequisites: CIS 120 and CIS 141

CIS 201 - Microdatabase Programming ..... **(3:2:2)**
This course covers the design, implementation, and testing of database applications. Topics covered include the transaction processing, the creation and maintenance of database files, and the development of screens and reports using a commercial programmable database package. Prerequisites: CIS 120 or CIS 125.

CIS 205 - Intro Object Orient Programmng ..... **(4:3:2)**
This is an introduction to Object Oriented Programming course. It deals with the constructions and manipulations of classes and objects. Object oriented programming concepts, algorithms, techniques, and libraries are also reviewed. Students are required to write programs of a moderately complex nature. Prerequisites: CIS 120

CIS 207 - Visual Programming ..... **(4:3:2)**
This course is an overview of "visual" programming using a programming language like VISUAL BASIC. Topics covered include object-oriented programming, graphical user interfaces, and client-server connectivity using DDE and OLE. Participants will begin by writing simple programs and progress to programs of moderate complexity. In addition, participants will analyze and modify larger, more complex applications. Prerequisites: CIS 120

CIS 209 - Visual Programming ..... **(3:2:3)**
This course provides students with programming skills to develop Windows applications using a visual programming

language. Topics include program structure, language syntax, and implementation details using an integrated development environment (IDE). Prerequisites: CIS 150

CIS 210 - Data Comms/Networking ..... **(3:2:2)**
This course covers fundamental data communications concepts and components, storage of data, transmission rules and protocols, wiring and distribution, PC local area networks, LAN operating systems, topologies, LAN servers, linking LANs, and LAN management. Prerequisites: CIS 120 and CIS 141.

CIS 211 - Data Structures ..... **(4:3:2)**
Basic concepts of data structures such as abstraction, arrays, graphs, linked lists, multiple stacks, queues, recursion, searching, sorting, stacks, tables and trees are considered as well as systematic techniques for the construction and efficient implementation of same. The course uses the C language and required extensive programming. Prerequisites: CIS 120 and CIS 141.

CIS 212 - Internetworking & Support(MS) ..... **(4:3:2)**
This course introduces the student to internetworking with Microsoft networks and prepares the student to take the appropriate Microsoft MCSE certification exams. Prerequisites: CIS 197

CIS 214 - Internetworking & Support(NOV) ..... **(4:3:2)**
This course covers internetworking and support of Novell NetWare. Topics include using research tools, troubleshooting, installing hardware, network management and the implementation of web services with IntranetWare. This course prepares the student to take the appropriate Novell CNE certification exams. Prerequisites: CIS 199

CIS 220 - COBOL ..... **(4:3:2)**
This course is an introduction to COBOL and its application to business problems. The course will cover structured programming concepts, structured design, input/output operations, control breaks, sorting, table processing, and basic concepts of file organization. Prerequisites: CIS 120

CIS 221 - Advanced COBOL ..... **(4:3:2)**
A continuation of COBOL. Advanced topics covered include the creation and maintenance of sequential and index-sequential files and data base files for batch and online environments. Prerequisites: CIS 220

CIS 238 - Database Design & Programming ..... **(4:3:2)**
This course introduces students to database programming using Structured Query Language (SQL). Students acquire working knowledge of the databases necessary to apply and manage the key features such as creating, updating, and reporting. Prerequisite: CIS 120

CIS 240 - Systems Analysis & Design ..... **(3:2:3)**
This course introduces the modeling concepts and design technology used in the analysis of business problems and the development of alternative solutions involving computers. It includes the design, construction, and implementation of a computerized business system with special attention given to the information systems. Prerequisites: CIS 238 or CNE 215 or CNE 216

CIS 246 - Networking III ..... **(4:3:2)**
This course is the third in the series and is the first advanced course. It addresses those tasks that network managers and administrators need to perform when managing access and controlling overhead traffic in growing, routed, networks once basic connectivity has been established. The course discusses router capabilities used to control traffic over LANs and WANs, as well as connecting corporate networks to an Internet Service Provider (ISP). Extensive individual and group lab work is required. Prerequisites: CIS 196

CIS 247 - Networking IV ..... **(4:3:2)**
Students learn how to build, configure and troubleshoot a remote access network to interconnect central sites to branch offices and home offices. Students also learn how to control access to the central site, as well as to maximize bandwidth utilization over the remote links. Prerequisites: CIS 246

CIS 248 - Networking V ..... **(4:3:2)**
Student will learn how to build campus networks using multi-layer switching technologies over high speed Ethernet. This course includes both routing and switching concepts, covering both Layer 2 and Layer 3 technologies. Prerequisites: CIS 247

CIS 249 - Networking VI ..... **(4:3:2)**
Student will learn how to baseline and troubleshoot an environment using routers and switches for multi-protocol client hosts and servers connected with both; Ethernet and Fast Ethernet LANs; and Serial, Frame Relay, and ISDN BRI WANs. The course provides students with methodical practice using specific Cisco IOS software and switching software tools to diagnose and correct problems on widely installed networking equipment. Prerequisites: CIS 248

CIS 250 - Operating Systems II ..... **(3:2:2)**
A continuation of Operating Systems I. Basic principles of operating systems are discussed in greater detail. Topics include concurrent programming, process coordination, deadlocks, protection, and basic concepts of distributed processing. PC and mainframe operating systems are examined, and lab projects will require work in both environments. Prerequisites: CIS 141

CIS 251 - Programming Language II ..... **(4:3:2)**
A programming language such as C, Modula-2, or ADA, is used to introduce the concepts of algorithms, data structures, and/or low-level programming. Prerequisites: CIS 120

CIS 253 - Open Source Software ..... **(4:3:2)**
This course provides a detailed review of open source software, including both operating systems and applications. Topics include the history of open source computing; a review of currently available open source operating systems and end-user applications; installing, using and troubleshooting open source software; and open source networking. This course uses the Linux operating systems and related applications, and helps to prepare students for the CompTIA Linux+ certification. Prerequisite: CIS 192

CIS 260 - Internet/Web Commerce ..... **(4:3:2)**
In this course, student will learn how to: configure and maintain a complete Intranet or Internet e-commerce Web site; develop and publish Web pages using a variety of tools and technologies; produce dynamic Web pages using server-side and client-side scripts, such as ASP and XML; develop effective secured shopping cart applications using a scalable relational database. Concepts of processing credit card transactions with payment gateway systems will be introduced. Prerequisites: CIS 120 and CIS 160

CIS 280 - Applied Programming Workshop ..... **(4:3:2)**
This course provides practice in the design and programming of real-life applications utilizing skills and knowledge obtained from previous computer information system courses. Prerequisites: CIS 120 and CIS 141 or CIS 221 or CIS 240.

CIS 281 - Topics in Microcomputers ..... **(4:3:2)**
A discussion of current microcomputer topics such as window programming, graphics, image processing, etc. Prerequisites: CIS 110 or CIS 120 or CIS 125

CIS 282 - Topics in Programming Language ..... **(4:3:2)**
An introduction to programming languages of different paradigms such as LISP, PROLOG, and/or some special purpose programming language. Prerequisites: CIS 120

CIS 283 - Topics in Operating Systems ..... **(4:3:2)**
An in-depth treatment of an operating system such as MVS, UNIX, or a current operating system. Prerequisites: CIS 141

CIS 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CIS 293 - Co-Op I ..... **(5:0:15)**
Students will be placed in part-time computer information/ data processing centers to gain hands-on computer operation experience. Prerequisites: CIS 240

CIS 294 - Co-Op II ..... **(5:0:15)**
Students will be placed in part-time computer information/ data processing centers to gain hands-on, applied programming experience. Prerequisites: CIS 293

CIS 295 - Industrial Co-Op Training ..... **(12:0:35)**
The cooperative program is an optional semester of on-the-job practice as an entry-level applications programmer trainee in a programming department in industry. Therefore, the student will have an opportunity to utilize the techniques required of his/her specialty under close on-the-job supervision. Prerequisites: CIS 240

CLT 101 - American Deaf Culture ..... **(3:3:0)**
This course will introduce students to Deaf Culture in the United States. It will trace the history of the Deaf experience. It will analyze factors which contribute to defining Deaf persons as a cultural minority. There will be a focus on the personal, psychological and social aspects of deafness as well as the effects of oppression on Deaf people. Prerequisites: None

CLT 110 - Cross-Cultural Immersion ..... **(3:3:0)**
This course develops competency in global learning and an understanding of different perspectives related to cross-cultural diversity. Students develop an understanding of world cultures and global issues on campus and through study abroad immersion in a host country. Prerequisites: ((Test score or RDG 051 or higher) and (Test score or ENG 051 or higher)) or Test score or ENG 090 or ENG 091 or higher

CLT 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CLT 201 - Current Issues in Deafness ..... **(3:3:0)**
Students will use current periodicals published and read by the Deaf community to gain insight into issues of importance to them. Major issues such as identification, labeling, placement, least restrictive environment, and due process will be reviewed. Current federal, state and local legislation affecting handicapped persons will be analyzed. Prerequisites: CLT 101

CLT 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CMM 905 - Chrysler Trng-Mobile Eqp Repr ..... **(45:0:0)**
Course credit awarded for successful completion of the Chrysler apprenticeship mobile equipment repair training program. Certification verifying journeyman status from the Chrysler training facility is required.

CMT 111 - Construction Print Reading ..... **(3:2:2)**
This course introduces the process of interpreting and communicating information found on residential and commercial construction documents. The use of 2-dimensional/ 3-dimensional visualization skills and mathematical calculation skills to read and interpret drawing data are emphasized. Prerequisites: (Test scores or RDG 051 or higher) and (Test scores or ENG 051 or higher) and (Test scores or MAT 012 or higher)

CMT 125 - Construction Project Admin. ..... **(3:3:0)**
The course prepares the student to use procedures and techniques involved in controlling, coordinating, and managing the construction project processes. Topics include: hierarchy of authority on construction projects, establishment and coordination of field office, inspection responsibilities, keeping documentation: records and reports, construction laws and labor relations, construction safety, meetings and negotiations, pre-construction operations, planning for construction, job site operations, progress payments, materials and workmanship, change orders claims and disputes, and project close-out. Emphasis will be placed on the general construction field. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185 and Test score or RDG 051 or ESL 100 or NCS 052 or RDG 120

CMT 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CMT 224 - OSHA Constr Industry Training (3:3:LAB_HOURS)
This course provides complete information on Occupational Safety Health Administration (OSHA) compliance issues such as recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces. The course also provides information regarding workers' rights and employer responsibilities. Upon completion of the course, students will receive a 30-hour Construction Industry course completion card from OSHA. Prerequisite: ENG 101

CMT 234 - Cost Estimating/Planning ..... **(3:2:2)**
This course covers material lists, take-off quantities of materials, and labor costs from residential construction documents. Different methods of estimating are presented, including using productivity software to project costing and scheduling. Prerequisite: ((RDG 120 and ENG 121) or ENG 101) and (CET 125 or (AET 125 and AET 135)) and MAT 181

CMT 235 - Adv Cost Estimating/Planning ..... **(3:2:2)**
This course provides an in-depth analysis of commercial construction costs, bid preparation and value engineering with regard to budgetary constraints. Different methods of estimating using productivity software are presented. Prerequisite: CMT 234

CMT 242 - Constr Project Management I ..... **(3:2:2)**
This course develops an understanding of project management using productivity software. Primary topics include an introduction to job organization and coordination, project scheduling, critical path method (CPM) scheduling techniques, materials management, cost estimates, and reporting. Prerequisite: (ACC101 or concurrent) and CMT 234

CMT 243 - Co-op Work Experience ..... **(3:0:9)**
This course is a cooperative educational work experience. Students develop technical skills, investigate career choices, build confidence, network with people in the field, and transition in entry into the workforce. Prerequisite: CMT 111 and CMT 234.

CMT 244 - Constr Project Management II ..... **(4:3:3)**
This course further develops an understanding of project management using productivity software. Primary topics include job organization and coordination, project scheduling, critical path method (CPM) scheduling techniques, materials management, cost estimates, and reporting. Emphasis is placed on commercial construction contracts, including planning, scheduling, controlling, and analyzing project progress. Prerequisite: ENG 102 and ACC 101 or concurrent, and CMT 234 and CMT 242

CMT 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CNE 180 - Computer Assmbly & Maintenance ..... **(4:3:2)**
This course provides an overview of the personal computer and its components. Students explore and assemble personal computers. An introduction to non-component troubleshooting is included. Prerequisites: (Test scores or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120)

CNE 191 - Router Configuration ..... **(3:2:2)**
This course provides an in-depth view of essential perimeter function regarding routers. Configuration, packet filtering, protocols, troubleshooting, and fortification are covered. Prerequisite: CIS 141

CNE 192 - Network Administration ..... **(4:3:2)**
This course covers the skills necessary to install, maintain, and troubleshoot computer network infrastructure. Students learn to describe computer networking technologies, apply basic design principles, adhere to computer wiring standards, and use test equipment. Prerequisite: CIS 141

CNE 215 - Enterprise Server Admin ..... **(4:3:2)**
This course covers installing, configuring, and maintaining the Windows Server operating system. User and file administration, resource sharing, and Active Directory (AD) are covered. Prerequisite: CNE 192

CNE 216 - Open Source Server Admin ..... **(3:2:2)**
This course covers installing, configuring, and maintaining an open source operating system (OS). User and file administration and resource sharing are covered. Prerequisite: CNE 192

CNE 280 - Advanced Networking Topics ..... **(3:2:3)**
This course covers advanced topics in network design and implementation to include real-world tasks related to the field of networking. Prerequisites: CNE 215 and CNE 216

CNE 284 - Cloud Computing ..... **(3:3:2)**
This course introduces cloud computing technology and its practical applications in today's business environments. Topics include an introduction to cloud computing's service models and deployment models and to the way cloud environments are provisioned in public or private clouds. Prerequisites: CNE 215 and CNE 216

COM 011 - Intro to Human Communication ..... **(3:3:0)**
This introductory course focuses on the development of interpersonal communication skills. Emphasis will be placed on the practical application of these skills. Prerequisites: Test score or ENG 005 and Test score or RDG 005

COM 110 - Intro. to Video Production ..... **(3:2:3)**
An exploration of the principles, mechanics, techniques, and aesthetics of video production. This course is designed to help students learn to use video as an effective form of communication. Students will learn how to obtain video using digital video cameras and will learn to digitally edit using industry standard software. Students will practice pre-production planning and writing, production procedures, and post-production editing. Prerequisites: (Test Score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test Score or RDG 051 or NCS 052 or ESL 100 or RDG 120).

COM 111 - Human Communications ..... **(3:3:0)**
Human communications is based on the premise that no person lives and works in isolation. From both the personal and occupational perspectives, one must be able to communicate with others efficiently and effectively. This course focuses on theory and application of both intrapersonal and interpersonal communication. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120

COM 140 - Newswriting I ..... **(3:3:0)**
An introductory writing course that provides students the opportunity to learn to write and to edit for different media including newspapers, radio and television, and public relations. Experience in developing larger stories and covering meetings. Prerequisites: Test score or ENG 051 and test score or RDG 051.

COM 142 - Radio Production ..... **(3:2:2)**
An in-depth and hands-on radio production course that provides students the opportunity to learn how to write, produce, and edit for radio. Students employ campus radio equipment and digital editing technology. The course requires work in the campus radio station. Prerequisites: Test score or ENG 051 or ENG 121 or ENG 125 and Test score or RDG 051 or RDG 120

COM 150 - Intro to Electronic Media ..... **(3:3:0)**
An introductory course to the radio and television broadcasting industries, including broadcasting history, FCC rules and regulations, and station operations. Requires work at campus radio facilities. Prerequisites: Test score or RDG 005 and Test score or ENG 005

COM 152 - Podcasting ..... **(3:3:LAB_HOURS)**
Designed to acquaint students with podcasting, the technical skills to produce audio and video internet-formatted broadcasts, and the ability to distribute and market the product to a diverse audience on the internet. Includes a study of copyright law and fair use. Prerequisite: COM 140

COM 160 - Intro to Public Relations ..... **(3:3:LAB_HOURS)**
Designed to introduce students to the history, theories, ethics and practice of public relations, including writing of public relations

materials and collateral and the communications planning process. Prerequisites: Test score or ENG 121 or ENG 125

COM 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

COM 210 - Advanced Video Production ..... **(3:2:3)**
This course provides intermediate-level training in digital video production. Emphasis is placed on the production of professional-quality videos using professional non-linear editing software and employing visually aesthetic videography, editing, writing, and performance techniques. This hands-on course will focus on sharpening the student's skill in storytelling, producing, directing, editing, and capturing audio and video that is required for employment in the communication field. Students taking this course will gain hands-on experience that will prepare them for a variety of field productions including industry presentations, broadcast programs, and commercials. Prerequisites: COM 140 and COM 110.

COM 222 - Intercultural Communication ..... **(3:3:0)**
An introduction to the knowledge and skills required for effective interpersonal commumication with diverse populations. Communication models, barriers to effective communication and techniques for overcoming communication barriers will be discussed. Special emphasis is placed on communicating with members of various cultures in a helping environment. Prerequisites: (Test score or ENG 121 or ENG 125) and (Test score or RDG 120) and PSY 121 and (POL 111 or SOC 111).

COM 240 - Mass Media Law ..... **(3:3:0)**
A course designed to acquaint students with technical responsibilities and libelous aspects of reporting as illustrated in historic court cases and to apply legal and ethical principles to current news stories. Includes a study of Delaware's Freedom of Information Act. Prerequisites: COM 140

COM 242 - Newswriting II ..... **(3:3:0)**
This in-depth study of writing, which includes a study of the current techniques, problems and responsibilities of writing and the application of these principles to assigned stories. Students also write for the school publication. Prerequisites: (Test scores or ENG 102 or higher) and COM 140

COM 246 - Introduction to Film ..... **(4:3:2)**
This class will review the technical structure of film and all its components - cinematography, sound, lighting, casting, storyboarding and scriptwriting, while also allowing students to share their own personal ovservations of film and its impact on their lives. Prerequisites: Test score or ENG 121 or ENG 125.

COM 250 - Photography ..... **(4:3:2)**
A study of techniques for taking and for developing pictures for newspapers. Includes a thorough study on the operation of 35 mm camera. Prerequisites: Test score or RDG 005 and Test score or ENG 005

COM 251 - Layout and Design ..... **(3:3:0)**
A course designed to introduce layout and design ideas employed by print media. Includes such areas as typography; sports, front, and inside pages; special sections; and graphics. Prerequisites: COM 140

COM 252 - Advanced Photography ..... **(4:3:2)**
This course is an extension of the skills and techniques learned in COM 250. It is designed to help students expand their photographic skills as they apply to communications. It features group evaluations and close interactions with the instructor. The course will focus on students' growth through photographic projects based on their individual goals and abilities. Emphasis will be placed on llinking photography to other forms of communication. Prerequisite: COM 250

COM 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

COM 293 - Internship with Seminar ..... **(5:1:12)**
A supervised internship designed to provide a variety of practical on-the-job experiences in specific areas of the communications field. The internship and seminar will provide an opportunity to exchange ideas and discuss relevant issues in the media. Prerequisites: COM 242

CPO 100 - Intro to Chem Proc Oper Tech ..... **(3:3:0)**
This course introduces the student to process operations on chemical plants. Topics include: process technician duties, responsibilities, and expectations; plant organizations; and plant process and utility systems. In addition, the course exposes the student to an overview of the Chemical Process Operator Technology program, including the physical and mental requirements of the process technician career. Field trips to nearby chemical plants are also included. Prerequisites: None

CPO 106 - Statistical Procs Cntrl Ovrvw ..... **(1:1:0)**
This course provides a brief overview of basic statistics, including variation, and explains how to transform raw data into control charts for variables or attributes and determine in-control/out-of-control conditions. Basic problem solving tools (Pareto Analysis and Cause and Effect Diagrams) are presented. Prerequisites: Test score or Mat 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185.

CPO 125 - Safety, Health & Environment ..... **(3:3:0)**
This course will provide the student with a basic understanding of safety, health and environment for chemical plant operations. Topics include properties of hazardous materials, safety and health, industrial hygiene practices, environmental protection regulations, and emergency planning and response. In addition, the student will learn the requirements for compliance with transportation regulations involving shipments of hazardous materials and wastes. Prerequisites: Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 153 or MAT 181 or MAT 185.

CPO 135 - Chem Proc Tech-Equipment ..... **(3:2:2)**
This course provides students with an understanding of the type of equipment used in the chemical process industry. Topics include piping, valves, pumps, compressors, heat exchangers, and other chemical process equipment. The course concludes with a discussion of preventative/ predictive maintenance. Prerequisites: Test score or MAT 012 or higher

CPO 151 - Chem Proc Tech I-Systems ..... **(4:3:2)**
This course will provide the student with an introduction to chemical stoichiometry, fluid flow, heat transfer, plant utilities, and reactor concepts. In addition, the unit operations of distillation, fermentation, crystallization, filtration, and drying are discussed using a standardized format that emphasizes the operational know-ledge and techniques important to chemical process technicians.

In addition, renewable energy and biofuels technologies are highlighted. Prerequisites: CHM 110 and CIS 107 and MET 150

CPO 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

CPO 240 - Quality ..... **(3:3:0)**
This course provides an overview of the quality concepts used by the chemical process industry. Topics include quality philosophy, continuous improvement, operating consistency, plant economics, team skills, and statistical process control techniques. Prerequisites: (MAT 153 or MAT 181) and (CHM 110 or CHM 150).

CPO 252 - Chem Proc Tech II-Operations ..... **(4:3:2)**
This course will provide an overview into the field of operations within the chemical process industry. Students will use existing knowledge of equipment, systems, and instrumentation to understand the operation of an entire unit. Topics include typical duties performed by an operator in commissioning, startup, normal operations, shutdown, turnarounds, and abnormal situations within a generic operating unit. Laboratory exercises include the operation of five pilot plants. Prerequisites: CPO 151 and ELC 101.

CPO 253 - Process Troubleshooting ..... **(4:3:2)**
This course will provide an overview of different troubleshooting techniques, procedures, and methods used to solve chemical process problems. Topics include application of data collection and analysis, cause/effect relationships, and reasoning. Laboratory instruction involves troubleshooting problems initiated by the instructor in operating pilot plants and computer simulators. Prerequisites: CPO 151 and ELC 101.

CPO 260 - Internship ..... **(4:1:8)**
The course provides an experience external to the college for advanced study in chemical process operator technology. Students who qualify for an internship must work a minimum of 128 hours in a local industrial facility. The industrial experience is mentored and supervised by a workplace employee. Prerequisites: CPO 151 and CPO 240.

CPO 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

CRJ 101 - Intro to Criminal Justice ..... **(3:3:0)**
The philosophy underlying the criminal justice system and the basic structures of the components of criminal justice: Police, courts and corrections. Prerequisites: None

CRJ 102 - Criminal Law ..... **(3:3:0)**
Principles of Criminal Law, the natural sources and types of criminal law, the classification and analysis of crimes and criminal acts in general, and the examination of selected criminal offenses. Prerequisite: Test score or RDG 051 and Test score or ENG 051

CRJ 104 - Drugs Society/Human Behavior ..... **(3:3:0)**
This course examines the various phases of the problems created by narcotics and dangerous drugs. It also provides an analysis of dangerous drugs with special emphasis on societal efforts to control the sale and use of illegal drugs. Prerequisite: Test score or RDG 051 and Test score or ENG 051

CRJ 105 - Computer Appl in Crim./Justice ..... **(3:3:1)**
This course provides instructions in the operation of computer systems and software commonly used by criminal justice professionals. Prerequisites: CRJ 101 and CRJ 102 and CRJ 107.

CRJ 111 - Intro To Security ..... **(3:3:0)**
A review of the historical, philosophical and legal basis of security and the secure individual in modern society. This course also surveys the administrative, operational and physical aspects of the security field. Prerequisite: Test score or RDG 051 and Test score or ENG 051

CRJ 115 - Essntls of Intrvwng/Counslng ..... **(3:3:0)**
A study and practice of interviewing and counseling techniques as used in social work, corrections, and community agencies. Prerequisites: Test score or RDG 051 or ESL 100 or NCS 052 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125

CRJ 118 - Corrections in America ..... **(3:3:0)**
A general overview of the American Corrections system that includes the history and evolution of the system, current philosophies and practices, prisoners' rights and rehavilitation vs. punishment. Prerequisite: Test score or RDG 051 and Test score or ENG 051

CRJ 120 - Hnrs Issues in Law Enforcement ..... **(3:3:LAB_HOURS)**
The course will examine and address the Criminal Justice Systems and criminal justice institutions among a number of political systems. Special emphasis will be placed on comparative crime rates, various stages of the criminal justice process and specific contemporary issues pertaining to various models of government. Prerequisites: CRJ 101

CRJ 152 - Collct/Analysis Crme Scne Evid **(3:3:LAB_HOURS)**
Intense study of methods of collection, indentification, preservation, and presentation of crime scene evidence. Prerequisites: Test score or ENG 051 and Test score or RGD 051 and CRJ 101.

CRJ 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

CRJ 199 - Police Academy Advanced Credit ..... **(32:LECTURE_HOURS:LAB_HOURS)**
Comprehensive basic police training leading to certification as a Law Enforcement Officer for the State of Delaware. Students eligible for this course have been awarded a certificate of completion of basic police training by an accredited Delaware Police Training Academy with which DTCC has an articulation agreement. This course recognizes the students preparation for sworn service as a police officer and includes all aspects of basic law enforcement training to include laws of arrest, criminal code, court procedure, laws of evidence, the criminal justice information systems, traffic code and accident investigations, crime scene processing, interviewing and interrogations, crisis intervention, narcotics and dangerous drugs, and current ethical issues in law enforcement. Prerequisite: None

CRJ 220 - Criminal Judiciary ..... **(3:3:0)**
Test course examines the structure and procedures of different courts: federal, state, adult and juvenile. Included is a complete detailed process from bail to corrections. Prerequisites: Test score or RDG 051 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125

CRJ 222 - Constitutional Law ..... **(3:3:0)**
The Constitution of the United States and the Bill of Rights are examined and interpreted with applications for the criminal justice system. The course emphasis is on legal issues dealing primarily with the relevant amend- ments and assoicative cases law. Prerequisite: ENG 051 and RDG 051 and (CRJ 101 or HDM 101)

CRJ 223 - Criminology ..... **(3:3:0)**
A study into the nature and causes of crime. Basic principles dealing with methodology, contemporary theories, and the broad view points of criminal behavior and the justice system. Prerequisites: Test score or RDG 051 and Test score or ENG 051

CRJ 226 - Crisis Intervention ..... **(3:3:0)**
Short term crisis intervention and suicide prevention will be stressed in addition to standard individual and group counseling techniques. Prerequisites: CRJ 115 and CRJ 225

CRJ 235 - Internship ..... **(4:1:8)**
The final phase of the student's program where the student must complete a total of 128 hours of work within the various criminal justice agencies. Along with intense field experience, the student must submit a daily log and a detailed term paper based upon field experience. Prerequisites: CRJ 101 and CRJ 115 and CRJ 110 and CRJ 104 and CRJ 118.

CRJ 236 - Practicum for Police ..... **(4:2:5)**
The final phasse of the Criminal Justice program for students desirous of a law enforcement career requires the completion of an experiential practicum. Focus will be on the development of physical agility and communication skills including: written testing and the oral interview process. Self-discipline and teamwork skills are enhanced. This may be considered as a preparatory course for the Police Acedemy. Prerequisites: (ENG 122 or ENG 130) and CRJ 101 and CRJ 102 and CRJ 104 and CRJ 110 and CRJ 118 and CRJ 223.

CRJ 237 - Law Enforcement Practicum ..... **(13:12:4)**
This course directs towards students seeking a career in law enforcement and encompasses major topics instructed at a Delaware police academy, in accordance with DE Council on Police Training (COPT) requirements. Key topics of instruction include traffic laws and collision investigation techniques, criminal law, constitutional law, terrorism, report writing, evidence collection, crime scene processing, crisis intervention techniques, and physical training. Upon successful completion of the course, students may become eligible for advanced standng at a Delaware police academy, if sponsored and hired by a qualifying Delaware police agency. Prerequisites: CRJ 101 and CRJ 102 and CRJ 104 and CRJ 105 and CRJ 115 and CRJ 220 and ENG 121 and HDM 202

CRJ 275 - Criminal Justice Management ..... **(3:2:2)**
This course examines the application of management concepts to cases simulating the social, technical and political aspects of utilizing resources to accomplish goals related to the management of criminal justice assests. Prerequisites: MGT 212 and MGT 214 and MGT 219 and MGT 231.

CRJ 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CRJ 299 - Special Seminars ..... **(3:3:0)**
Presentation, examination, and discussion of all aspects of selected current issues and topics in criminal justice including debate of selected topics and proposed solutions. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and CRJ 101 and CRJ 102 and CRJ 104 and CRJ 110 and CRJ 118 and ENG 122 or ENG 122 concurrently.

CSA 101 - Instructor CSA for Sem I ..... **(4:4:1)**
This course provides an introduction to networking concepts and terminology. Topics covered include the OSI model, IP addressing, subnet masks, physical and logical LAN topologies, and the functions and specifications of various pieces of networking equipment. Also discussed is the pedagogy involved in presenting this information to high school students. Enrollment limited to high school instructors in Cisco Local Academy. Prerequisites: None

CSA 102 - Instructor CSA for Sem. II ..... **(2.5:2.5:1)**
This course will prepare the instructor to present the 2nd semester of the CISCO Networking Academy. This course provides an introductory examination of routers. Topics include router components, setup, and simple router configuration, RIP protocol, distance-vector and link-state routing algorithms, convergence, and routing problems and solutions. Prerequisites: CSA 101

CSA 103 - Instructor CSA for Sem. III ..... **(4:4:1)**
This course will prepare the instructor to present the third and fourth semester of the CISCO Networking Academy program. This course is for Cisco Local academy instructors only. Prerequisites: CSA 102

CSA 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CSA 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CSC 114 - Computer Science I ..... **(4:3:2)**
This course introduces the fundamental concepts of programming. Topics include data types, control structures, functions, arrays, files, and the mechanics of running, testing, debugging and documenting. The concepts of data abstraction and recursion are introduced. Students are required to create simple programs, explain them and demonstrate they meet requirements. Prerequisites: Test score or ENG 051 or ENG 099 or NCS 051 or ENG 100 or ENG 121 or ENG 125 and Test score or RDG 120 and Test score or MAT 075 or MAT 090 or MAT 140 or MAT 153 or MAT 181 or MAT 185.

CSC 164 - Computer Science II ..... **(4:3:2)**
This is the second in a series of courses. As such it builds on the concepts of the previous course while emphasizing the use of classes and objects. Topics include object-oriented programming concepts, abstraction, algorithms, techniques, and libraries. Sudents are required to write programs using multiple files and modules, class hierarchies, inheritance, polymorphism and are fault tolerant. Prerequisite: CSC 114

CSC 214 - Computer Science III ..... **(4:3:2)**
This is the third in a series of courses providing students with a foundation in computer science. Students will develop advanced

programming skills using a language that supports an object-oriented approach and emphasizing data structures, algorithmic analysis, software engineering principles, software information assurance and professionalism. Prerequisite: CSC 164

CSC 264 - Applied Computer Capstone ..... **(4:3:2)**
This course provides practice in the design and programming of real-life applications utilizing skills and knowledge obtained from previous Computer Information System courses. Prerequisites: CSC 214

CSM 101 - Intro to Customer Service ..... **(3:3:0)**
This course introduces students to the concepts and skills needed to perform effectively in a customer-driven service economy. Communication, teamwork, and problem-solving skills are emphasized. Prerequisites: Test Score or RDG 051 and Test Score or ENG 051

CSM 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chair.

CSM 201 - Telecomms Skills ..... **(3:3:0)**
This non-technical course presents fundamental concepts of telecommunications, depicts state-of-the art technologies, and relates how they are used in business. Prerequisites: Test score or RDG 051 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125

CSM 212 - Credit/Collections ..... **(3:3:0)**
A comprehensive collegiate course designed to acquaint students with consumer and business credit, public credit policies, collection procedures, and related legal issues. Prerequisites: BUS 101 and Test score or RDG 051 and Test score or ENG 051 and Test score or MAT 012

CSM 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chair.

CTS 101 - Fundmentals-Motor Fleet Safety ..... **(3:3:0)**
This course teaches safety fundamentals and essential regulatory requirements not directly related to driving. It addresses knowledge of federal and state regulations governing commercial drivers and motor carriers. Prerequisites: (Test score or RDG 051 or ESL 100 or NCS 052 or RDG 120) and (Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 005 or NCS 005 or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 14o or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185)

CTS 102 - Vehicle Sys/Report Malfunction ..... **(2:2:0)**
This course familiarizes the student with tractor-trailer vehicle systems and the proper procedures for handling and reporting vehicle malfunctions. Prerequisites: (Test scores or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test scores or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test scores or MAT 005 or NCS 005 or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 181).

CTS 103 - Tractor Trailer Operations ..... **(2:2:0)**
This course acquaints students with tractor-trailer control systems and introduces control concepts. It teaches vehicle inspection procedures and requirements, coupling and uncoupling procedures, and shifting procedures and patterns. Prerequisites: Test score or RDG 051 and test score or ENG 051 and test score or MAT 005.

CTS 104 - Road Driving Practices ..... **(1:0:3)**
This course teaches the basic control skills necessary to operate tractor-trailer vehicles on the public roadways. Registered students must participate in a random drug-testing program as mandated by federal law. Co-requisites: CTS 101 and CTS 102 and CTS 103.

CTS 105 - Range Driving Practices ..... **(2:0:6)**
This course teaches the basic control skills necessary to safely operate tractor trailer vehicles through a series of maneuvering exercises. Students will also develop shifting, backing, inspecting, and coupling/uncoupling skills. Registered students must participate in a random drug-testing program as mandated by federal law. Co-requisites: CTS 101 and CTS 102 and CTS 103.

CTS 106 - Advanced Driving Operations ..... **(2:2:0)**
This course teaches driving principles necessary for safe operation of a tractor-trailer vehicle on the highway and explores the interaction between the vehicle and the highway traffic environment. It addresses hazard perception and response as well as emergency and evasive maneuvers. Co-requisites: CTS 103

CTS 107 - Advanced Driving Practices ..... **(1:0:3)**
The student learns to apply safe operating principles, perceive hazards, and operate at night in this course. Skill development and learning occurs through behind-the-wheel training. Registered students must participate in a random drug-testing program as mandated by law. Co-requisites: CTS 103 and CTS 104 and CTS 105 and CTS 106.

CTS 108 - Professional Driver Developmnt .....
(3:3:LAB_HOURS)
This course introduces the trucking industry from the perspective of a commerical driver applicant by discussing commerical driver qualifications, job seeking skills, substance abuse awareness, driver wellness and whistleblower protection. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 005 or NCS 005 or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 181) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120).

CTS 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CTS 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CUL 112 - Cake Decorating ..... **(2:1:3)**
This course is designed to teach the basics and fundamentals of professional cake decorating. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 141 or MAT 150 or MAT 153 or MAT 181

CUL 119 - Food Safety and Sanitation ..... **(2:2:0)**
This course covers practical sanitary techniques and safety

in food preparation. A Hazard Analysis of Critical Control Points (HACCP) is used to develop a self-inspection system. Prerequisites: (Test score or ENG 090 or ENG 091 or concurrent or higher) and (Test scores or MAT 012 or higher)

CUL 121 - Food Prep I ..... **(4:3:4)**
The study of food preparation, fundamentals, cooking techniques, and quality. Recipe conversions and food costs analysis are also covered. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 or ENG 122 or ENG 130 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or MAT 012 or NCS 012 or MAT 015 or MAT 016 or MAT 120 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

CUL 156 - Practicum ..... **(3:1:5)**
This supervised work experience is designed to give the culinarian hands-on training in the field at various stations in the kitchen. Prerequisites: CUL 121

CUL 171 - Garde Manger ..... **(4:3:4)**
This course introduces cold food preparation. Topics include salads, dressings, canapes, tea sandwiches and cold soups, pates, ballonttines, basic charcuterie, and vegetable carvings. Prerequisites: CUL 119 and (CUL 121 or FSM 110)

CUL 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CUL 241 - Planning Food Service Sys ..... **(3:3:0)**
This course covers work methods, space, and equipment arrangement for kitchens. Specific plans will be developed for various industry segments and markets. Prerequisites: CUL 121

CUL 245 - Applied Hospitality ..... **(2:1:4)**
This course, which is held in the culinary arts dining room, is designed to teach students customer service and professional management principles. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 012 or NCS 012 or MAT 015 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120).

CUL 261 - Baking ..... **(4:3:4)**
This is a production-oriented course designed to introduce and expand on the basic fundamentals of baking for potential cooks, chefs and managers. The student will learn and apply a set of highly interrelated techniques and baking skills. All baked products, breads, cookies and cakes will be used in the campus restaurant or cafeteria. Prerequisites: CUL 271

CUL 262 - Pastry ..... **(4:3:4)**
This is a production-oriented course based on the baking principles learned, in Baking CUL 261. The student will apply these basic principles to produce various desserts and decorative works. Prerequisites: CUL 261

CUL 285 - International Cuisine ..... **(4:3:4)**
International Cuisine will introduce the student to American regional and International Cuisine's. The student will produce menus that will focus on the taste, flavors and styles of these various areas. Prerequisites: CUL 171

CUL 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CUL 291 - Food Prep II ..... **(4:3:4)**
This course builds on the fundamentals of CUL 121. Staffing requirements are introduced. Students develop menus with prices for specific market segments. Individual work stations are studied and assigned including an introduction to basic pastry, baking, and Garde Manger. Prerequisites: CUL 285

CVS 109 - Intro to Clin Internship II ..... **(1:0:4)**
Continuation of DMS 108 Introductory clinical course offers practical experiences in clinical setting for application of previously learned principles. Prerequisites: DMS 108

CVS 201 - Clinical Internship I ..... **(3:0:15)**
The continued experience of the introductory course in a diagnostic medical sonography clinical setting for application of learned technical skills. Includes demonstrations in the use and care of ultrasound equipment and initiates participation, under direct supervision, in actual sonographic procedures. Prerequisites: BIO 130 and ECH 112 and VAS 112.

CVS 202 - Clinical Internship II ..... **(7:1:30)**
A continuation of CVS 201. The goal is to provide an expanded clinical environment for the experience, with emphasis on the comfort and safety of the patient while maintaining quality performance in diagnostic medical sonographic procedures. Echocardiography review is also implemented to strengthen knowledge base. Prerequisites: CVS 201

CVS 203 - Clinical Internship III ..... **(7:1:30)**
A continuation of CVS 202, having the same goals. Providing additional self-development in more independent work and confirming proficiency in cardiovascular sonographic procedures. Prerequisites: CVS 202

CVS 210 - Scanning Applications ..... **(1:1:1)**
This course is designed to integrate previous learned didactic knowledge and laboratory skills to strengthen sonographic knowledge and scanning techniques. Applications of these skills are also emphasized and reviewed. Emphasis is on vascular studies of extremity arteries, extremity veins and cerebrovasculature. A group presentation of sonographic case is also included. Prerequisites: ECH 112 and VAS 112

CWE 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

CWE 201 - Co-Op Education I-1st level ..... **(3:0:10)**
A work experience project for independent study with individualized instruction at an instructor approved job site. Requires prior department approval. Prerequisites: none

CWE 202 - Co-Op Education I - 2nd Level ..... **(3:0:10)**
A work experience project for independent study with individualized instruction at an instructor approved job site. Requires prior department approval. Prerequisites: none

CWE 203 - Co-Op ..... **(5:0:15)**
Provides students with an opportunity to learn through experience. The student will analyze tasks, duties, responsibilities,

and other important elements of their technology. Requires prior department approval. Prerequisites: None

CWE 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

DAC 141 - Intro Drug&Alcohol Counseling ..... **(3:3:0)**
This introductory course examines the physiological and sociological impact of drug and alcohol abuse. Emphasis placed on the disease concept of addiction and it's progressive nature. Prerequisites: HMS 121

DAC 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

DAC 225 - Drug&Alcohol Counseling II ..... **(3:3:0)**
This course acquaints the student with a variety of treatment techniques unique to the field of drug and alcohol addiction. The course emphasizes learning through an experimental modality. Prerequisites: ENG 122 and HMS 122 and HMS 123 and DAC 141

DAC 230 - Assessmnt/Trtmnt/D&A Counsing ..... **(3:3:0)**
This course is an overview of various types of addictions and the resulting characteristics and behavior patterns of the addicted individual. Emphasis is on etiology assessment and treatment. Prerequisites: DAC 141 and ENG 121

DAC 240 - Families & Addiction ..... **(3:3:0)**
This course examines the impact of drug and alcohol addiction on the family. The focus will be on reviewing models of family dysfunction and methods of treating the addicted family. Prerequisites: DAC 141

DAC 244 - Dir Practice II-Drug/Alcohol ..... **(6:1:15)**
Individuals are placed in various Drug and Alcohol treatment agencies to learn through supervised participation in working with addicted individuals. Prerequisites: HMS 243

DAC 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

DEN 901 - IBEW Apprenticeship Program ..... **(47:0:0)**
Course credit awarded for successful completion of the electrical workers apprenticeship program through the IBEW Local Union 313. A letter verifying journeyman status from the Joint Apprenticeship and Training Committee IBEW is required.

DEN 902 - Carpenters Apprenticeship Prog ..... **(47:0:0)**
Course credit awarded for successful completion of the Carpenters Apprenticeship Program through the Carpenters Union Local #626. A letter verifying journeyman status from the Carpenters' Union is required. Prerequisites: None

DHY 101 - Clinical Dental Hygiene I ..... **(2:1:6)**
A clinical experience course designed for the practical application of the didactic information presented in DHY 111 - Dental Hygiene Fundamentals I. The seminar aspect will allow time for problem-solving and sharing clinical experiences. Prerequisites: BIO 120

DHY 102 - Clinical Dental Hygiene II ..... **(3:1:10)**
A clinical experience course designed for practical application of the didactic information presented in DHY 111 Dental Hygiene Fundamentals I and DHY 112 - Dental Hygiene Fundamentals II. Prerequisites: DHY 101

DHY 103 - Clinical Dental Hygiene III ..... **(2:1:6)**
A clinical experience incorporating all past and current knowledge and techniques learned in related dental hygiene courses, into the treatment of all types of patients. The seminar aspect will permit a time for problem solving and clinical experience sharing. Prerequisites: DHY 102

DHY 111 - Dental Hygiene Fundamtls I ..... **(3:3:0)**
An introduction to dental hygiene care focusing on clinic preparation procedures, patient assessment, and principles of instrumentation. This course also incorporates medical emergencies in the dental setting and initial supplemental procedures for patient care. Prerequisites: CHM 110

DHY 112 - Dental Hygiene Fundmtls II ..... **(3:2:3)**
A continuation of DHY 111 Dental Hygiene Fundamentals I to develop new skills appropriate to dental hygiene treatment. The course focuses upon various patient populations, the characteristics, common treatment needs, and patient management. Additional areas include ethical and legal issues of dental hygiene care. Prerequisites: DHY 111

DHY 121 - Oral Histology/Embryology ..... **(2:2:1.5)**
The course deals with the study of oral mucosa, the periodontium, dental tissues, the tongue, and salivary glands. Areas of focus include the function, gross anatomy, clinical characteristics, and microscopic features of these oral tissues. Additionally, embryologic development and tooth development and eruption are covered. Prerequisites: BIO 120

DHY 132 - Dental Anatomy ..... **(1.5:1.5:0.8)**
This course deals with the study of the gross anatomy of the dentition and surface structures of the head and neck region. Major topics include morphology of permanent and primary dentition, occlusal concepts, and surface anatomical landmarks. Prerequisites: BIO 120

DHY 133 - Head and Neck Anatomy ..... **(1.5:1.5:0.5)**
This course deals with the study of the gross anatomy of the structure in the head and neck region. Major topics include bones, muscles, the temporomandibular joint, cranial nerves, blood supply, venous drainage, and lymphatic drainage. Prerequisites: BIO 120

DHY 141 - Oral Radiography ..... **(3:2:2)**
The course lectures will provide an introduction to the principles, theories, and techniques of dental oral radiography. The laboratory exercises deal with the exposing, processing, mounting and evaluation of dental radiographs for the development of clinical radiographic skills. The paralleling technique will be stressed. Prerequisites: DHY 133

DHY 151 - Periodontology/Cariology ..... **(3:3:0)**
This course is designed to study two diseases which affect a patient's oral health. Emphasis will be directed to the dental hygienist's role in the prevention and treatment of periodontal diseases and dental cares. Advanced treatment planning philosophies will be introduced for these diseases. Prerequisites: DHY 121

DHY 161 - Oral Pathology ..... **(3:3:0)**
A study of the etiology, clinical signs and symptoms, and treatment of pathological conditions related to the oral cavity. Emphasis is also placed on the interaction between oral pathology and systemic pathology. Pre-requisite: DHY 121

DHY 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

DHY 204 - Clinical Dental Hygiene IV..... **(4:1:13)**
A clinical experience incorporating all past and current knowledge and techniques learned in related dental hygiene courses into the treatment of all types of patients. The seminar aspect will permit time for problem solving and sharing clinical experience. Prerequisites: DHY 103

DHY 205 - Clinical Dental Hygiene V..... **(4:1:16)**
A final course in clinical techniques to develop all aspects previously learned in total patient care. The seminar aspect will permit time for problem solving and sharing clinical experiences. Prerequisites: DHY 204

DHY 212 - The Compromised Dental Patient ..... **(1.5:1.5:1)**
A seminar and clinic lab focusing on the needs and treatment of the mentally, physically, and medically compromised patient. The course will include a variety of lectures, discussions, films, laboratory exercises, field trips, and clinical sessions. Pre-requisite: DHY 271

DHY 213 - Adv Clinical Techniques ..... **(3:2:2)**
The course lectures will provide information on additional clinical techniques building on skills introduced in radiography, periodontology and previous clinical courses. The laboratory portion will supplement the lecture portion and include skills related to the areas of oral radiography, periodontology, and clinical dental hygiene practice. Prerequisites: DHY 141

DHY 214 - Nutrition for Dental Care ..... **(2:0:2)**
A course in the fundamental principles and practices that are essential in nutritional care to maintain health and prevent illness. Topics will include the metabolism of nutrients; their role in preserving health; diet analysis and counseling; the role of nutrition in dental health; and contemporary nutrition controversies. Prerequisites: DHY 112

DHY 215 - Practice Management..... **(1:1:0)**
A course designed to assist the student seeking a professional career in dental hygiene. Emphasis will be placed on interview skills, legal implications, professional organizations, alternative practice settings, and dental office management. Prerequisites: DHY 212

DHY 271 - Pharmacology for Dental Hygien..... **(1.5:1.5:0)**
This course is designed to supply students with a basic understanding of pharmacologic principles and therapeutic applications to health care. Special emphasis is placed upon therapeutic agents used in the dental practice as well as other agents which may impact the practice of dental hygiene. Prerequisites: DHY 112

DHY 281 - Operative/Specialty Dentistry..... **(1:1:0.5)**
A lecture and laboratory series in the concepts of operative dentistry including chemical and physical properties of materials. This course also includes information on procedures in specialty areas of the dental practice. Prerequisites: DHY 213

DHY 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

DHY 290 - Community Dental Health..... **(2:2:0)**
This course focuses on health care problems and systems within the community setting. Content includes addressing health needs through assessment, planning, and evaluation of dental health programs. Prerequisites: DHY 112

DHY 291 - Communty Dental Health Fld Wrk ..... **(1:0:2)**
This course focuses on field work experiences to provide direct involvement with community members. Content addressing dental health needs through assessment, planning, and evaluation of programs. Prerequisites: DHY 290

DMS 100 - Intro to Ultrasonography..... **(2:2:0)**
Provides an overview of the profession by exploring the history, concepts, current state of the art, works in progress, medical terminology and certain legal aspects of diagnostic ultrasound. Prerequisite: HLH 101

DMS 104 - Intro to Clinical Internship I..... **(1:0:7)**
This course is an introductory clinical course which provides orientation experiences in the clinical setting for application of previously learned principles. Prerequisites: MAT 153 and BIO 120 and PHY 111 and (Test Scores or ESL 100 or RDG 120)

DMS 106 - Intro-Patient Care/Sonography..... **(3:3:1)**
This course will provide the student with patient care knowledge and skills necessary for the performance of sonographic procedures on all patient populations. In addition, an introduction to the field of diagnostic medical sonography will be provided. Prerequisites: CHM 110 and PHY 111

DMS 107 - Essentials in Pt. Care/Sono..... **(3:3:1)**
This course will provide the student with patient care knowledge and skills necessary for the performance of sonographic procedures on all patient populations. In addition, an introduction to the field of diagnostic medical sonography will be provided. Prerequisites: (Test score or ENG 121 or ENG 125) and BIO 120 and MAT 153 and PHY 111.

DMS 108 - Intro to Clin Internship I..... **(1:0:4)**
Introductory clinical course provides orientation experiences in clinical setting for application of previously learned principles. Prerequisites: DMS 106

DMS 109 - Intro to Clin Internship II . **(1:LECTURE_HOURS:4)**
Continuation of DMS 108 Introductory clinical course offers practical experiences in clinical setting for application of previously learned principles. Prerequisites: DMS 108

DMS 110 - Acoustical Physics..... **(3:3:0)**
This course is designed to give a theoretical and practical understanding of the basic principles of ultrasound instrumentation, sound wave concepts, characteristics of sound propagating media, beam patterns, beam and image artifact, Doppler effect, system performance testing, and bio-effects and safety. Prerequisites: MAT 153 and (DMS 106 or DMS 107)

DMS 112 - OB/GYN Sonography I..... **(2:2:1.5)**
A study of the reproductive organs of the female in the non-gravid state. Instruction will include the role of diagnostic medical sonography in the determination of congenital anomalies, pathology, infertility management and contraception. Prerequisites: Test score or ENG 121 or ENG 125 and BIO 120 and MAT 153 and PHY 111.

DMS 113 - Gynecological Sonography ..... **(2:2:1)**
A study of the reproductive organs of the female in non-gravid state.

Instruction will include the role of diagnostic medical sonography in the determination of congenital anomalies, pathology, infertility management and contraception. Prerequisites: BIO 120 and DMS 106.

DMS 114 - Obstetrical Sonography ..... **(2:2:1)**
A study of the reproductive organs of the female in the gravid state. Instruction will include the role of diagnostic medical sonography in the determination of fetal age and growth, fetal well-being, detection of anomalies and obstetrical management. Prerequisites: DMS 113

DMS 121 - Abdominal Sonography I ..... **(2:2:1)**
A course appropriate to the study of diagnostic medical sonography of the abdomen. Instruction will include cross-sectional anatomy, physiology and pathophysiology of abdominal vicera, breast, and scrotal contents. Prerequisites: BIO 120 and DMS 100

DMS 122 - Abdominal Sonography II ..... **(2:2:1)**
A continuation of DMS 121 appropriate to the study of diagnostic medical sonography covering cross-sectional anatomy, physiology and pathophysiology of the abdomen and superficial structures. Prerequisites: DMS 121

DMS 131 - Abd/Small Parts Sono. I ..... **(2:2:1.5)**
A course appropriate to the study of diagnostic medical sonography of the abdomen. Instruction will include cross-sectional anatomy, physiology and pathophysiology of abdominal viscera. Prerequisites: (Test score or ENG 121 or ENG 125) and BIO 120 and MAT 153 and PHY 111.

DMS 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

DMS 201 - Clinical Internship I ..... **(3:0:15)**
The continued experience of the introductory course in a diagnostic medical sonogrpahy clinical setting for application of learned technical skills. Includes demonstrations in the use and care of ultrasound equipment and initiates participation, under direct supervision, in actual sonographic procedures. Prerequisites: DMS 114 and DMS 122 and VAS 112.

DMS 202 - Clinical Internship II ..... **(7:1:30)**
A continuation of supervised DMS 201. The goal is to provide an expanded clinical environment for the practicum, with emphasis on the comfort and safety of the patient while maintaining quality control in the use and care of diagnostic medical ultrasound equipment. Prerequisites: DMS 201

DMS 203 - Clinical Internship III ..... **(7:1:30)**
A continuation of DMS 202 , having the same goals, providing additional self-development in more independent work, and confirming final terminal competency in sonographic procedures. Prerequisites: DMS 202

DMS 210 - Scanning Applications ..... **(1:1:1)**
This course is designed to integrate previous learned didactic knowledge and laboratory skills to strengthen sonographic scanning techniques. Applications of these skills are also empasized and reviewed. A group presentation of a sonographic case is also included. Prerequisites: DMS 114 and DMS 122 and VAS 112.

DMS 211 - Abdominal Sonography III ..... **(1:1:0)**
Designed to provide basic information on some of the more common applications of diagnostic medical sonography in the neonate, infant, and young pediatric patient. Includes instrumentation and scanning techniques in the brain, abdomen, gastrointestinal and genitourinary tracts, and infant hip. Prerequisites: DMS 122

DMS 214 - Essentials in Vascular U/S ..... **(2:2:1)**
This course is designed as an introduction to the fundamentals of vascular sonography. Instruction includes hemodynamics, cerebrovascular, peripheral arterial and venous anatomy, physiology, pathophysiology, and ultrasound testing methods. Prerequisites: DMS 215 and DMS 231.

DMS 215 - OB/GYN Sonography II ..... **(2:2:1)**
A study of the reproductive organs of the female in the gavid state. Instruction will include the role of diagnostic medical sonography in the determination of fetal age and growth, fetal well-being, detection of anomalies and obstetrical management. Prerequisite: DMS 112

DMS 230 - Special Topics ..... **(2:2:0)**
This course is designed to integrate knowledge from previous courses with current studies to produce thorough, sequential information in areas of special topics pertaining to Diagnostic Medical Sonography. Case studies will provide a means to discuss and review pathology, clinical manifestation of symptoms, differential diagnosis, sonographic patterns and protocols in scanning. In addition, review of ARDMS board examination will be implemented Prerequisites: DMS 202 or CVS 202.

DMS 231 - Abd/Small Parts Sono. II ..... **(2:2:1)**
A continuation of DMS 131 appropriate to the study of diagnostic medical sonography covering cross-sectional anatomy, physiology and pathophysiology of the abdomen and superficial structures. Introductory clinical experiences integrate previously learned principles. Prerequisite: DMS 131

DMS 235 - Pediatric Sonography ..... **(1:1:0)**
Designed to provide basic information on some of the more common applications of diagnostic medical sonography in the neonate, infant and young pediatric patient. Includes instrumentation and scanning techniques of the brain, abdomen, gastrointestinal and genitourinary tracts and infant hip. Prequisites: DMS 215 and DMS 231.

DMS 240 - Clinical Sonography I ..... **(3:0:16)**
Provides an orientation to various practical aspects of diagnostic medical sonography by introducing the student to the practical clinical environment. Includes demonstrations in the use and care of ultrasound equipment and allows opportunity for participation, under direct supervision, in actual sonographic procedures. Prerequisites: DMS 112 and DMS 131.

DMS 241 - Clinical Sonography II ..... **(6:0:32)**
A continuation of DMS 240. The goal is to provide an expanded clinical environment for the experience, with emphasis on the comfort and safety of the patient while maintaining quality performance in diagnostic medical sonographic procedures. Prerequisite: DMS 240

DMS 242 - Clinical Sonography III ..... **(5:0:24)**
A continuation of DMS 241, having the same goals, providing additional self-development in more independent work and working towards proficiency in general sonographic procedures. Prerequisite: DMS 241

DMS 243 - Clinical Sonography IV ..... **(5:0:24)**
A continuation of DMS 242, having the same goals, providing additional self-development in more independent work. Prerequisite: DMS 242

DMS 250 - Selected Topics in U/S ..... **(2:2:0)**
This course is designed to integrate knowledge from previous courses with current studies to produce thorough, sequential information in areas of special topics pertaining to Diagnostic Medical Sonography. Case studies will provide a means to discuss and review pathology, clinical manifestation of symptoms, differential diagnosis, sonographic patterns and protocols in scanning. In addition, review of ARDMS board examination will be implemented. Prerequisite: DMS 242

DMS 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

EBZ 220 - Fundamentals of E-Commerce ..... **(3:3:0)**
This course explores electronic commerce concepts, models, and strategies necessary to effectively build and manage E-Commerce applications. Students will learn how to make better decisions and determine information requirements for development of E-Commerce in both traditional and web-based businesses. Topics include risk management, security and privacy issues, EDI, E-Commerce payment systems, accounting in E-Commerce systems, regulatory and legal issues, and web marketing. Prerequisites: CIS 107 and BUS 101.

EBZ 221 - Strategic Aspects: E-Business ..... **(4:3:2)**
As the capstone course in the E-Business Technology, this course serves to integrate all of the strategic aspects of E-business. Case studies will be used to identify and examine the latest trends and directions in using the Internet for business purposes. Students will learn to develop, integrate, and manage technology applications impacting the operations in an organization. Prerequisites: EBZ 220

ECE 101 - Childhood Health ..... **(1:1:0)**
This course is a study of children's health needs for normal growth and development during early childhood. Prerequisites: None

ECE 102 - Childhood Safety ..... **(1:1:0)**
This course is a study of childhood safety neeeds for normal growth and development during early childhood. Prerequisites: None

ECE 103 - Childhood Nutrition ..... **(1:1:0)**
This course is a study of children's nutrition needs for normal growth and development during early childhood. Prerequisites: None

ECE 104 - History/Professionalism in ECE ..... **(1:1:0)**
This course offers a study of historical and contemporary theories, professionalism and issues related to the early childhood education field as well as an understanding of the impact of these items on children's development. Prerequisites: None

ECE 105 - Programs/Services Birth-Age 8 ..... **(1:1:0)**
This course is designed to assist students in their understanding of basic concepts relevant to child development. Emphasis will be placed upon physical, cognitive, emotional, and social development from age four through adolescence. The interrelationship of these factors will also be discussed and evaluated. Prerequisites: None

ECE 106 - Mtg Diverse Needs-ECE Learners ..... **(1:1:0)**
This course offers a study of diverse educational needs of children including examination of special education, social, religious, economic, political, and multi-cultural factors which influence the development of the child. Prerequisites: None

ECE 107 - Child Development: Pre-Birth ..... **(1:1:0)**
This course is designed to assist students in their understanding of basic concepts relevant to child development. Emphasis will be placed upon development prior to birth. Additional emphasis will be placed on assessment and research on development. Prerequisites: None

ECE 108 - Chld Devlpmnt:Birth thru Age 3 ..... **(1:1:0)**
This coursse is designed to assist students in their understanding of basic concepts relevant to child development. Emphasis will be placed upon physical, cognitive, emotional, and social development from birth through age three. The interelationship of these factors will also be discussed and evaluated. Prerequisites: None

ECE 109 - Chld Dvlpmnt:Age 4-Adolescence ..... **(1:1:0)**
This course is designed to assist students in their understanding of basic concepts relevant to child development. Emphasis will be placed upon physical, cognitive, emotional, and social development from age four through adolescence. The interrelationship of these factors will also be discussed and evaluated. Prerequisites: None

ECE 111 - Childhd Nutrition/Safety ..... **(3:3:0)**
Nutrition, health, and safety needs for normal growth and development during early childhood are studied. Prerequisites: none

ECE 120 - Comtemp Issues in Erly Childhd ..... **(3:3:0)**
This course offers a study of various models, theories, and issues in early childhood education programs as well as an understanding of the impact of these items on children's development. Multiple facets of professionalism and its effects will be explored. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120).

ECE 121 - Infant & Toddler Methods & Lab ..... **(5:4:4)**
This course is an introduction to program designed for infants and toddlers. Emphasis is on child/caregiver inter- action, developmentally appropriate practice for infants and toddlers, and on managing programs in centers and in family day care homes. Emphasis is also provided on develop- mentally appropriate activities for infants and toddlers. Activity areas include social/emotional development, cognitive and language development, and sensory motor development. Prerequisites: (Test Score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test Score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120)

ECE 123 - Early Childhd Methods I & Lab ..... **(5:4:4)**
This course is an introduction to the language arts, literacy, science, social studies, and math curriculum suitable for use with children in the early childhood and primary grade settings. The course is designed to help the student understand the importance of these various curriculum areas in the child's overall development and the materials/ activities included in the curriculum. It also includes applied practice as students will have "hands-on" experience and will develop and evaluate plans for implementation. Prerequisites: PSY 125 and ECE 121

ECE 125 - Early Childhd Methods II & Lab ..... **(5:4:4)**
This course is designed to acquaint students with creative and motor skill areas of the curriculum. Students will learn the importance of these various curriculum areas in the child's overall development and the

materials/activities included in the curriculum. It also includes applied practice as students will have "hands-on" experience and will develop plans for implementing programs. Prerequisites: PSY 125 and ECE 121

ECE 127 - Childhood Classroom Mgt ..... **(3:3:0)**
This course focuses on structuring the early childhood classroom and school day. Students will explore various approaches to classroom management. Topics such as goal setting, establishing objectives, record keeping, and appropriate guidance techniques will also be covered. Prerequisites: ECE 120 and PSY 125

ECE 128 - CDA Seminar ..... **(1:1:0)**
This course will prepare students for Direct Assessment for a Child Development Associate (CDA) National Credential. Students will complete a Professional Resource file that can be submitted to the CDA for review. Prerequisites: none

ECE 130 - Early Childhood Leadership I ..... **(3:3:0)**
In this course, students examine the leadership role and are introduced to a model of facilitative leadership as a way to empower staff and support shared decision making. Students are introduced to a comprehensive model for hiring and supervising staff, and for promoting ongoing professional development. Students develop and practice the skills needed to nurture a positive work climate that promotes peak performance. Prerequisites: None

ECE 131 - Early Childhood Leadership II ..... **(3:3:0)**
In this course, students learn components of effective management including systems and the importance of systems thinking; stakeholder analysis and management; the strategic planning process; how policies, procedures, and systems are interconnected; and tools for taking charge of program operations. Students learn how to manage a fiscally responsible early childhood business and are introduced to effective budgeting and accounting. Students develop skills needed to promote a positive public image and to create environments that welcome and support the learning of children and adults, as well as promote their health and safety. Prerequisite: ECE 130

ECE 132 - Early Childhood Leadership III ..... **(3:3:0)**
In this course, students learn to support children's development and learning by understanding the interactive environment, the advantages of different groupings and staffing patterns, and continuity of care. Students learn how to implement curriculum and the importance of observation and child assessment in achieving program goals. Students explore the director's role in creating family partnerships, promoting an appreciation of diversity, and nurturing open communication. Students learn the importance of program evaluation and continuous quality improvement - the leadership practice of assessing needs, defining desired outcomes, developing an action plan, and evaluating effectiveness. Prerequisite: ECE 131

ECE 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ECE 211 - Parnt/Teachr&Community Interac ..... **(3:3:0)**
This course stresses the importance of the parent-teacher relationship and explores techniques of increasing parental involvement in the school program. Students will participate in arranging a parent education program and prepare as well as participate in a parent-teacher conference. Prerequisites: PSY 121 and PSY 125

ECE 220 - Program Administration ..... **(3:3:0)**
This course is designed to provide students with an opportunity to explore program evaluation and the techniques for program administration. These techniques ensure alignment of programs with community needs. Prerequisites: PSY 125 and (ECE 123 or ECE 125) and ECE 127 and ECE 226.

ECE 221 - Operational Management ..... **(3:3:0)**
This course is designed to provide students with the opportunity to understand operational systems in a childcare setting. Students will gain skills for record keeping plans, system implementation of facilities and equipment maintenance, and implementing health, safety, and nutrition policies. Prerequisites: PSY 125 and (ECE 123 or ECE 125) and ECE 127 and ECE 226.

ECE 222 - Program Planning/Evaluation ..... **(3:3:0)**
This course is designed to provide students with information on the various aspects involved in program planning and the tools used for evaluating the program. Students will gain experience in developing their own programs and in using various evaluation processes. Prerequisites: ECE 127 and ENG 122

ECE 223 - Personnel Management ..... **(3:3:0)**
This course is designed to provide students with information on personnel aspects in the childcare setting. Students will gain insight in areas of licensing requirements, legal issues, and staff development needs. Prerequisites: PSY 125 and (ECE 123 or ECE 125) and ECE 127 and ECE 226.

ECE 224 - Fiscal Management ..... **(3:3:0)**
This course is designed to provide students with information on financial management in childcare settings. Students will gain experience in areas of legal issues, financial planning and application. Prerequisites: PSY 125 and (ECE 123 or ECE 125) and ECE 127 and ECE 226.

ECE 226 - Assessment of Young Children ..... **(3:3:0)**
This course provides an overview of child assessment with an emphasis on screening and assessment instruments and methods. Ten hours of observation is a course requirement. Prerequisites: (Test Score or ENG 121 or ENG 125) and (PSY 125 or PSY 126) and ECE 120

ECE 233 - Exceptional Child ..... **(3:3:0)**
A study of the legal, psychological, medical, and sociological aspects of exceptionality with major emphasis on appropriate methods and practices in Early Childhood programs. Students will learn to develop materials and to work in partnership with parents and families of children with special needs. Prerequisites: PSY 121

ECE 244 - Fld Work - Teaching Practicum ..... **(6:1:15)**
The teaching practicum provides practical experience in an approved classroom environment under the supervision of a professional teacher. Prerequisites: ECE 111 and ECE 123 and ECE 125 and ECE 127 and (ECE 222 or ECE 222 concurrent) and ECE 226 and ECE 233 and EDC 120 and (EDC 220 or EDC 220 concurrent)

ECE 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ECH 111 - Echocardiography Techniques I ..... **(3:3:1.5)**
This course introduces the student to the fundamental skills and principles needed to perform echocardiography. Technologist

and patient safety will be addressed. The course covers the standard two dimensional cardiac views and M-mode evaluations. Emphasis is placed on cardiac anatomy, cardiovascular physiology, cardiac disease and its effect on the heart, and the study of basic cardiovascular pharmacology. Prerequisites: BIO 120 and DMS 106.

ECH 112 - Echocardiography Techniques II .....**(3:3:1.5)**
This course is a continued study of ECH 111 - Echocardiography Techniques I with an emphasis on pericardial and myocardial diseases, cardiac neoplasm and masses, cardiac trauma, and disease of the aorta and great vessels. Doppler and color flow echocardiography and the study of of prosthetic valves will also be included. Introductory clinical experiences integrate apreviously learned principles. Prerequisites: ECH 111

ECH 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ECH 213 - Echocardiography Technique III.....**(3:3:1)**
This course is a continued study of ECH 112 Echocardiography Techniques II. Understanding and proficiency in the performance of Doppler echocardiography will be emphasized. The study of embryology and congenital heart diseases will also be included. Prerequisites: ECH 112

ECH 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ECO 111 - Macroeconomics.....**(3:3:0)**
This course is designed to instruct students in the basic principles of supply and demand as they impact on the American economy. It places special emphasizes on those national policy decisions that are utilized to solve the problems of inflation and unemployment, such as Keynesianism, monetarism, and supply side. Also, the student explores other theoretical solutions and examines the effects of these policy decisions on the individual consumer. Prerequisite: Test score or ENG 051 and Test score or RDG 051 and Test score or MAT 012

ECO 122 - Microeconomics.....**(3:3:0)**
This course is designed to instruct students in the basic principles of supply and demand as they affect producer pricing decisions. It is specifically concerned with the relationship that exists between business and consumers and seeks to explain the functional differences in production and consumption. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100b or RDG 120 and Test score or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 141 or MAT 150 or MAT 153 or MAT 181

ECO 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chair.

ECO 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chair.

EDC 100 - Professional Prep: Praxis I.....**(1:1:0)**
The student will review mathematics, reading and writing concepts in preparation for the Praxis I test required for teacher certification. Test taking strategies and stress reduction techniques will also be studied. Prerequisites: Test score or RDG 120 and Test score or MAT 015 or MAT 016 or NCW 045 or MAT 075 or MAT 141 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 251 or MAT 261 or MAT 281

EDC 101 - Intro to Paraeducator Issues .....**(3:3:0)**
The roles and responsibilities of the paraeducator will be studied in this introductory course. Professional, ethical and legal aspects of becoming a paraeducator will be examined. The ability to communicate effectively with students, parents and school personnel will be emphasized. Standards based education, diversity issues and career opportunities in education will be studied. Prerequisites: Test score or RDG 051 and Test score or ENG 051

EDC 115 - Nature of Science..... **(1:1:LAB_HOURS)**
This course introduces students to the nature of science by presenting four major components - scientific knowledge, scientific processes, the nature of the knowledge, and the relationship between science and society. Students will analyze significant historic investigations and discoveries. The students will use the four components to study how the historic examples demonstrate the nature of science and the connection between science and society. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181).

EDC 120 - Foundations of Literacy .....**(3:3:0)**
This course teaches effective strategies to develop phonological awareness, fluency instruction, vocabulary instruction and text comprehension as well as techniques to decode and understand reading materials. Successful strategies for teaching writing skills will also be a major focus of this course. Recent trends and theories in reading and writing will be explored. Prerequisites: (Test score or RDG 120) and (Test score or ENG 121 or ENG 125).

EDC 150 - Issues in Elementary Education .....**(3:3:0)**
This course provides students with an overview of teaching as a profession. The philosophical, historical and social foundations of teaching and learning are explored. National and state curriculum frameworks are examined. Field experience is a course requirement. Prerequisites: Test Score or ESL 100 or RDG 120

EDC 180 - Community Culture Seminar.....**(1:1:0)**
Students will explore diverse cultures within the local and regional communities and will complete a multicultural learning project. Prerequisites: ((Test Score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test Score or RDG 051 or NCS 052 or ESL 100 or RDG 120)) or (ESL 042 and ESL 044 and ESL 048).

EDC 211 - Classroom Management.....**(3:3:0)**
The student will learn about the behavior management theories with an emphasis on the child centered approach known as Positive Behavior Supports (PBS). Proactive strategies for a positive learning environment will be emphasized. The strategies will highlight behavior management, diversity and multicultural factors, mainstreaming and classroom organization. Prerequisites: PSY 125 or PSY 126

EDC 220 - Parent/Family/School Interact.....**(3:3:0)**
Using an interdisciplinary approach, this course focuses on the dynamic relationship of the home, the school and the community as each contributes to the development and education of children. The course examines principles, techniques, and resources relevant to working with parents as individuals, couples, and both traditional and non-traditional families and with the community and community agencies. This course includes field experience. Prerequisites: PSY 121 and (PSY 125 or PSY 126) or (PSY 125 concurrently or PSY 126 concurrently).

EDC 230 - Children's Literature.....**(3:3:0)**
This course provides students with an overview of developmentally appropriate literature focusing on cultural perspectives and universal themes found in fiction and information text. Through class and individual projects, students explore children's literature as well as create and evaluate integrated lessons. Ten hours of field experience and documentation of PRAXIS I registration and score is required. Prerequisites: EDC 120 and (ENG 122 or ENG 130)

EDC 250 - Internship & Seminar.....**(4:1:9)**
Internships in local school settings will provide practical experience for the prospective paraeducator. The class will meet on a regular basis to evaluate activities, share experiences and assess readiness to direct additional activities under the supervision of a teacher. Prerequisite: EDC 212 Co-requisite: EDC 211

EDC 260 - Educational Psychology.....**(3:3:1)**
This course will focus on the developmental concerns of adolescents and how these issues may influence the adolescent learner in formal and informal learning situations. Academic motivation, interpersonal relationships, learning styles, and teacher expectations will be studied. A field placement in a secondary school setting will be an essential course component. Prerequisites: PSY 121 or PSY 126

EDD 110 - Intro to Engineering Tech.....**(3:2:2)**
This course introduces design problems and study activities common to engineering technologies. Conceptualization and communication skills are developed using mathematics, physical science, and engineering graphics. Measurement, use of tools, computer-aided design (CAD) technology, and computer literacy are explored. Prerequisites: ((((Test Scores or RDG 005 or RDG 051 or NCS 052 or NCW 091 or ESL 032 or RDG 120) and (Test Scores or ENG 005 or ENG 051 or NCS 051 or NCW 090 or ESL 034 or ENG 121 or ENG 125)) or Test Score or ENG 006 or ENG 007 or ENG 090 or ENG 091 or ENG 099 or ENG 101 or ENG 102 or ENG 122 or ESL 100) and (Test Scores or MAT 005 or NCS 005 or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 181).

EDD 121 - Intro to Engineering Graphics.....**(2:1:2)**
Introduces beginning drafting students to the basics of technical drawing. Emphasis is on the use of equipment, lettering, line quality, orthographic projection, types of technical drawings, and dimensioning methods. Freehand sketching and Basic Blueprint Reading will be discussed. Prerequisite: Test score or ENG 051 and test score or MAT 012 and test score or RDG 051.

EDD 131 - Engineering Graphics/CAD.....**(3:2:4)**
Development of basic drafting skills using traditional drafting equipment with special emphasis on computer- aided equipment. The focus will include two-dimensional drawings and the development of orthographic projections with a variety of design problems and study activities presented to help the student conceptualize and communicate graphically. Pre-requisites: (Test Score or MAT 012 or NCS 012 or MAT 015 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 153 or MAT 181) and (Test Score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test Scores or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120).

EDD 141 - Engr Drafting & Design I.....**(4:2:5)**
This is an introductory course to engineering drafting. It includes a study of geometric construction, proper use of drafting equipment, freehand sketching, orthographic, isometric, oblique and auxiliary views. Emphasis is placed on basic drafting practices as recommended by the American National Standard Institute (ANSI). Prerequisite: Test score or ENG 051 and test score or MAT 012 and test score or RDG 051.

EDD 142 - Engr Drafting & Design II.....**(3:2:2)**
This course focuses on advanced drafting practices and includes the study of primary and secondary auxiliary views and their proper dimensioning techniques, advanced detail dimensioning practices, tolerances and fits, surface texture and the many types of section views, including exploded views with emphasis on finish, tolerance and fits. Screw threads and threaded fasteners are also discussed. Prerequisite: EDD 141

EDD 161 - Intro - CAD using MicroStation.....**(3:2:2)**
This is an introductory CAD course and is designed to teach the student how to use MicroStation software to create quality 2D designs. You will learn to use MicroStation's tools and features to create designs, manipulate and modify elements, assemble project data and create output. Pre-requisite: AET 123 or AET 125 or CET 125 or EDD 141

EDD 171 - Intro to CAD Using AutoCAD.....**(3:2:2)**
This course introduces computer aided design (CAD) and how to use AutoCAD software to create quality two dimensional (2D) designs. AutoCAD's tools and features to create designs, manipulate and modify elements, assemble project data, and create printed output are emphasized. Prerequisites: (Aet 123 or concurrent) or (CET 125 or concurrent) or (EDD 141 or concurrent) or (EDT 151 or concurrent)

EDD 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

EDD 233 - Engr Drafting and Design III.....**(3:2:2)**
An advanced oriented drafting course reinforcing engineering drawing and its applications. This course includes the theories of various types of section drawings, detail and assembly drawings, welding drawings and development drawings. Surface texture, threaded and miscellaneous fasteners will also be discussed in depth. Prerequisites: EDD 142 and EDD 171.

EDD 234 - Eng. Drafting - Piping.....**(3:2:2)**
An introductory course emphasizing industrial piping drafting with a study of pipe fittings and valves, pumps, tanks, vessels, and equipment along with symbols, specifications, and their applications to a piping process system. This includes flow diagrams and P&ID's (Piping and Instrumentation Diagrams), plans and elevations, piping isometric and spool drawings. Pre-requisites: EDD 142 and EDD 271

EDD 245 - Engr Draftng/Design(HVAC/ELEC).....**(3:2:2)**
An advanced drafting course which familiarizes the student with developing drawings involving heating and air conditioning systems (HVAC), construction of various solid volumes from flat sheet metal fabrication, and electrical drafting dealing wtih device symbols, schematic diagrams, production drawings, and printed circuit board

design. The campus Computer Aided Design (CAD) facilities will be utilized for course assignments. Pre-requisites: EDD 142 and EDD 271

EDD 246 - Eng. Drafting - Structural ..... **(3:2:2)**
An advanced oriented drafting course of study which familiarizes the student with developing structural steel and Achitectural drawings. The AISC and ACI references will be utilized. Prerequisites: EDD 142 and EDD 272

EDD 249 - Engineering Design Process..... **(3:2:2)**
An advanced design course that familiarizes the student with the various stages of the engineering process utilizing parametric modeling. Prerequisites: EDD 142 and EDD 272.

EDD 261 - Adv Cad Using Microstation..... **(3:2:2)**
A continuation of (EDD 161) Introduction to Computer Aided Drafting. This course will elaborate on the more advanced computer-aided drawing and editing commands, symbol libraries, attributes, and basic three-dimensional drawing commands. Prerequisites: EDD 161

EDD 271 - Advanced CAD..... **(3:2:2)**
A continuation of (EDD 171) Introduction to CAD. This course will elaborate on the more advanced computer-aided drawing and editing commands, symbol libraries, attributes, and pictorial drawings. Prerequisite: EDD 171

EDD 272 - Solid Modeling..... **(3:2:2)**
This course introduces the concepts and commands of parametric solid modeling. Students create and add relationships to sketches, extrude the sketches to create models, add features such as fillets, cuts, chamfers, holes, drafts, shells, lofts, and sweeps. In addition, students extract two-dimensional (2D) documentation from the three-dimensional (3D) models and add details to the drawings. Prerequisites: (EDD 271 and (EDD 142 or EDT 152)) or (EDD 171 and EDT 128)

EDD 273 - Advanced Solid Modeling ..... **(3:2:2)**
This advanced course covers multi-body part techniques; part editing, equations, and errors techniques; top down design; sheet metal; welded structures; three dimensional (3D) sketching of components and assemblies; surface modeling; reverse engineering; and product design, development, and documentation. Prerequisites: EDD 272

EDD 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

EDT 108 - Technical Sketching ..... **(2:1:2)**
Introduction to Graphic Language by sketching two- or three-dimensional drawings. Engineering and publication types of illustrations will be emphasized. Emphasis on theory and technical detail rather than artistic aptitude. Prerequisites: none

EDT 128 - Machine Trades Blueprnt Rding..... **(3:3:0)**
Interpretation of detail working prints involving multiview, sectional, and auxiliary views, to more complex assembly drawings. Geometric tolerancing will be studied. Prerequisite: Test Score or RDG 051 and Test Score or ENG 051 and Test Score or MAT 012

EDT 141 - Basic Plumbing..... **(3:2:2)**
This course is designed to provide a student with a basic knowledge of plumbing, How fixtures work, types of material, types of systems, and how to make repairs will be taught in the course. Basic plumbing will provide the student with the skills to do basic repairs and installation in maintenance plumbing. Prerequisites: none

EDT 144 - Preventive Maintenance..... **(3:3:0)**
This course is designed to provide students with a basic knowledge of preventive maintenance that is common in business and industrial settings. The program covers basic procedures for maintaining electrical and mechanical equipment. Prerequisites: none

EDT 152 - Engineering Design II..... **(4:3:3)**
This intermediate course provides an overview of the rules, standards, and practices used to design, draw, dimension, and tolerance simple mechanical components and assemblies. The use of computer aided design (CAD), engineering design standards, and vendor supplied specifications in the design process are covered. Orthographic and detailed assembly drawings are developed to scale, dimensioned and drawn to acceptable professional standards. Prerequisites: EDD 141 and EDD 272 or concurrent

EDT 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

EDT 252 - Engineering Design III..... **(4:3:3)**
This advanced course provides an overview of the rules, standards, and practices in designing, drawing, dimensioning, and tolerancing mechanical components and assemblies. The use of computer-aided design (CAD), engineering design standards, product end-use requirements, manufacturability considerations, and vendor supplied specifications in the design process are covered. Original designs for complex functional mechanical components and systems are developed, dimensioned, and drawn to acceptable professional standards. Prerequisites: EDT 152 and (((Test Scores or RDG 120) and (Test Scores or ENG 121 or higher)) or Test Score or ENG 101 or ENG 102 or ENG 122) and MET 123 and (MET 132 or MET 132 concurrent)

EDT 273 - Engineering Design Project..... **(4:3:3)**
The student has the opportunity to design machines, processes, or products based upon sketched ideas or available industrial parts. All drawings that are necessary to manufacture and assemble the product are drawn. A phototype or model of the product may be required. Prerequisites: EDT 252 and ENG 121

EDT 275 - Research Problems-Engineering ..... **(3:2:2)**
Investigates a research problem in the engineering area selected by the student with approval of the instructor. A report and model or prototype are required. All work for development and execution problems are done by industrial standards. Prerequisites: EDT 252

EDT 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ELC 101 - Intro to Instrumentation ..... **(3:2:2)**
This course provides the student with instrumentation fundamentals required to understand the measurement and control aspects of plant operations. Prerequisites: (((Test Scores or RDG 051 or higher and (Test Score or ENG 051 or higher)) or Test Score or ENG 090 or concurrent or higher) and Test Score or MAT 015 or higher).

ELC 110 - Technical Computer Application.....**(3:2:2)**
An introduction to problem solving by computer methods with specific emphasis on solution of scientific and engineering technology related problems. Solution methods will include the use of DOS, mathematics applications software, engineering analysis software, and word processor. Prerequisite: ELC 120

ELC 118 - Intro to Electricity.....**(3:2:2)**
A study of direct current fundamentals including: Ohm's law and Power law, Kirchoff's Laws, Series, Parallel, and Series-Parallel DC circuits. Prerequisites: Test score or MAT 015 or NCW 045 or MAT 016 or MAT 075 or MAT 181 or MAT 182 or MAT 185 or MAT 281 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or ESL 100 or RDG 120.

ELC 119 - DC and AC Theory.....**(3:2:2)**
A study of series-parallel DC circuits using mesh and network theorem methods. Capacitance, magnetism, inductance, and DC transient response will also be covered. Prerequisites: ELC 118

ELC 120 - Intro to Circuit Analysis.....**(4:3:3)**
A study of direct current fundamentals including: Ohm's law and Power law, Kirchoff's laws, series, Parallel, and Series-Parallel DC circuits, advanced methods of analysis and Network Theorems, capacitance, magnetism and inductance, capacitive and inductive transients. Prerequisites: Test score or MAT 015 or MAT 016 or NCW 045 or MAT 075 or MAT 181 or MAT 182 or MAT 185 or MAT 281 and Test score or RDG 051 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125

ELC 121 - Network Analysis.....**(4:3:3)**
Analysis of alternating electric circuits with emphasis on applied use of fundamental theorems including Kirchhoff's Laws, Thevenin and Norton's Theorems, maximum power transfer, transient circuit effects, phasor analysis, apparent power, reactive power and real power, and series/parallel resonant conditions. Prerequisites: (ELC 119 or ELC 120) and MAT 181 or MAT 182 or MAT 185 or MAT 281 or MAT 282 or MAT 283.

ELC 122 - Electronic Devices/Circuits I.....**(3:2:3)**
Basic principles of electrical and electronic circuit operation including recognition and measurement of electrical properties, resistance, capacitance, inductance; series and parallel circuits, Ohm's, Watt's and Kirchhoff's laws; alternating current and voltage measurement; and use of laboratory instruments. Prerequisite: Test score or RDG 051 and test score or MAT 015 or MAT 016.

ELC 123 - Electronic Devices/Circuits II.....**(4:3:3)**
Fundamentals of electronic circuits with emphasis toward application, circuit/component recognition, expected input and output signals, and measurement criteria. Principles of diode circuit operation, BJT, FET and operational amplifiers including rectification, filtering, biasing, gain, bandwidth, and feedback. Prerequisites: ELC 120 or ELC 122 and Test score or MAT 015 or MAT 016

ELC 124 - DC & AC Circuit Analysis.....**(5:4:2)**
An in-depth introduction to the analysis of current, voltage, resistance and power in DC and AC circuits. Prerequisite: None Co-requisite: Mat 181

ELC 125 - Electrical Circuits I.....**(4:3:3)**
This course introduces applied electronic circuit analysis with the study of fundamentals, including Ohm's law, Watt's law, and Kirchhoff's laws. Topics include measuring instruments, oscilloscope, switches, circuit breakers, resistance, capacitance, inductance, series, parallel, and series-parallel circuits, transformers, alternating and direct power sources, and magnetism. Prerequisites: (Test Scores or ENG 051 or ENG 051 concurrent or ENG 099 or NCS 051 or ENG 121 or ENG 125) and (Test Scores or RDG 051 or RDG 051 concurrent or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test Scores or MAT 140 or MAT 140 concurrent or MAT 153 or MAT 181 or MAT 185)

ELC 126 - Analog Electronics I.....**(3:2:2)**
This course introduces analog electronics circuit analysis. Topics include semiconductor theory, filtered and unfiltered rectifiers, special purpose diodes, multipliers, limiters, clampers, bipolar junction transistors, and small-signal and large-signal amplifiers. Prerequisites: ELC 125 and (MAT 181 or MAT 181 concurrent)

ELC 127 - Digital Electronics.....**(4:3:3)**
This course studies digital concepts, including logic levels, pulse waveforms, number systems, logic gates, Boolean algebra, DeMorgan's theorem, systematic reduction of logical expressions, universal property of NAND and NOR gates, pulsed operations, adders, comparators, encoders/decoders, multiplexers/demultiplexers, parity circuits, flip-flops, and synchronous and asynchronous counters. Prerequisite: ELC 125

ELC 130 - Digital Electronics I.....**(4:3:3)**
A study of digital concepts including logic levels and pulse waveforms, number systems and codes, logic gates, Boolean algebra, DeMorgan's Theorem, systematic reduction of logical expressions, universal property of NAND and NOR gates, pulsed operations, adders, comparators, encoders/decoders, multiplexers/demultiplexers and parity circuits. Prerequisite: MAT 181 and ELC 120

ELC 131 - Digital Electronics II.....**(4:3:3)**
A study of advance digital electronic topics including memory elements, flip-flops, synchronous and asynchronous counters, shift registers, programmable logic arrays, read-only memories, eproms digital-to-analog and analog-to-digital conversion, and introductory microprocessor topics. Prerequisites: ELC 130

ELC 132 - Microcomputer Service & Repair.....**(4:3:3)**
A course of study designed to develop technical skill in the operation, installation, set-up and repair of microcomputer systems. Topics include basics of microprocessor, assembler, microcomputer architecture, memory elements, peripherals, set-ups, diagnostic software, troubleshooting, and customer relations. Prerequisite: ELC 110 and test score or RDG 051 and test score or MAT 015 or MAT 016.

ELC 133 - Microprocessor Fundamentals.....**(3:2:2)**
Basic principles of microprocessors using the 8086 family including an overview of microcomputer architecture, number systems, and the need for assembly language programs, addressing modes, exercises in screen display, computer arithmetic, disk I/O and graphic and serial communications. Prerequisites: Test score or MAT 015 or MAT 016

ELC 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ELC 205 - Computer Networks and System I.....**(4:3:2)**
This course introduces the fundamentals of data communications and computer network principles and applications. Students install, configure, and troubleshoot basic network hardware and peripherals,

emphasizing hands-on practical experiences. Specific topics include network topologies, protocols, cabling systems, wireless transmission and security. Prerequisites: CEN 150 and ELC 125

ELC 206 - Computer Networks & Systems II.....**(3:2:3)**
This course continues to cover data communications and computer network principles and applications. Students configure, troubleshoot, and secure networks and related peripherals. Prerequisites: ELC 205 and CEN 180

ELC 215 - Programmable Logic Controllers.....**(4:3:2)**
A course in modern control of processes. Programmable controllers, computer-controlled machines, bar code readers, and process control will be covered. An introduction to the field of robotics is included. Prerequisites: (ELC 118 and ELC 119) or (ELC 120 or ELC 122) and ELC 130 and MAT 181.

ELC 220 - Analog Electronics I.....**(4:3:3)**
A study of active devices including diode and transistor theory. The topics include: semiconductor theory, diode operation, bipolar (BIT) and field effect (FET) transistor operation, diode circuits, small-signal amplifiers, Class A and B transistor power amplifiers, and amplifier frequency response. Prerequisites: ELC 121 and (MAT 182 or MAT 185 or MAT 281 or MAT 282 or MAT 283).

ELC 221 - Analog Electronics II.....**(4:3:3)**
A study of amplifier frequency response, decibels, Miller effect, Miller's theorem, operational amplifier circuits, various forms of communications systems, including associated circuit building blocks and concepts. These include filter networks, Fourier series and the frequency domain, distortion, noise and measurements, oscillator circuits amplitude and frequency modulation, the phase-locked loop, transmission lines and antennas and fiber optics. Prerequisites: ELC 220

ELC 222 - Network Theorems & Analysis.....**(4:3:3)**
An advance treatment of DC/AC circuit analysis with emphasis on development of analytical skill by algebraic solution of compound networks. Branch, Mesh and Nodal techniques with computer solutions, and source conversion, Thevenin, Norton and Maximum power theorems are studied. Time variant and phasor wave definition are used in solution of series and parallel networks by use of complex algebra and application of all common theorems of electrical analysis. Prerequisites: MAT 181 and ELC 123.

ELC 223 - Electronic Communications.....**(4:3:3)**
Fundamentals of signal analysis and synthesis including electrical noise, Fourier Series, modulation and demodulation, transmission and reception of AM and FM signals, transmission lines, wave propagation, antenna theory, digital data communications, microwaves, lasers and fiber optics. Prerequisites: ELC 222

ELC 225 - Electrical Circuits II.....**(4:3:3)**
This course covers advanced treatment of direct current (DC) / alternating current (AC) circuit analysis with emphasis on applied use of fundamental theorems including Kirchoff's laws; source conversions; Thevenin and Norton's theorems; maximum power transfer; branch, mesh, and nodal analysis techniques; transient circuit effects; phasor analysis; apparent, reactive, and real power; and series/parallel resonant conditions. Prerequisites: ELC 125 and (MAT 182 or MAT 182 concurrent)

ELC 226 - Analog Electronics II.....**(3:2:2)**
This course covers the fundamentals of analog electronic circuits with emphasis toward application, circuit/component recognition, expected input and output signals, and measurement criteria. Topics include field effect transistors, frequency response of amplifiers, operational amplifiers, and industrial circuits including unijunction transistors (UJTs), silicon controlled rectifiers (SCRs), photoelectronics, sensors, and transducers. Prerequisites: ELC 126 and (MAT 182 or MAT 182 concurrent) and (ELC 225 or ELC 225 concurrent)

ELC 227 - Microcontroller Fundamentals.....**(3:2:3)**
This course presents the concepts and hands-on experience necessary to understand the architecture and software associated with microcontrollers. Structured laboratory exercises include assembly and high level programming, interrupt management, and peripheral interfacing. Prerequisite: ELC 125 and ELC 127 and CEN 180

ELC 228 - Microcontroller Applications.....**(4:3:3)**
This course introduces students to the practical aspects of using a microcontroller for real-time embedded applications and develops the skills to interface the microcontroller with peripherals such as timers, stepper motors, analog-to-digital converters, keypads and light-emitting diode, or liquid crystal displays using project-based content. Prerequisites: ELC 227

ELC 230 - Industrial Electronics.....**(4:3:3)**
An applications treatment of industrial electronic components, including NPN and PNP transistors, UJTs, SCRs, IC timers, IC voltage regulators, operational amplifiers, and stepper motor control circuits. Prerequisites: ELC 220

ELC 232 - Intro to Microprocessors.....**(4:3:3)**
An introduction to microprocessors and microcontrollers for electronic technicians. The course concentrates on programming and hardware fundamentals with emphasis on I/O (input/output) operations and devices. Various microprocessors and microcontrollers are used to highlight the basic principles common to any microcomputer system. Prerequisites: ELC 110 and ELC 131 and ELC 220.

ELC 233 - Microprocessor Applications.....**(4:3:3)**
A course designed to incorporate the microprocessor using motor speed and position control, handshaking, sensor and transducer interfacing, stepper motors, and other industrial applications. Prerequisites: ELC 232

ELC 235 - Semiconductor Processes.....**(4:3:3)**
This course is designed to introduce the student to Semiconductor device fabrication. Included will be an introduction to the chemistry and physics of semiconductors, oxidation process, photolithography, doping, etching, wafer cleaning, metallization, and contamination control. Prerequisites: CHM 100 and MAT 182 and ELC 124 and MET 140.

ELC 236 - Analog Electronics III.....**(3:2:2)**
This course covers an advanced study of electronic communications systems that includes signal analysis and synthesis of electrical noise, Fourier series, modulation and demodulation, transmission and reception of amplitude modulated (AM) and frequency modulated (FM) signals, transmission lines, wave propagation, antenna theory, microwaves, lasers, and fiber optics. Prerequisites: ELC 226

ELC 240 - Machines and Controls.....**(3:2:2)**
AC motors and DC motors and generators and related equipment including ladder networks and programmable controllers. Prerequisites: ELC 121 and ELC 130.

ELC 241 - Electrical Concepts.....**(2:2:1)**
Electrical Concepts is designed to further the student's understanding of AC and DC concepts. Topics will include: National Electrical Code (NEC), electrical safety, proper wiring techniques, uses of construction drawings in the layout planning equipment and conduits, wiring devices such as panels and overcurrent devices, service-entrance and branch circuit calculations and local code requirements. Prerequisites: (Test scores or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and MAT 140 and (ELC 121 or ELC 122 or ELC 124 or ELM 210)

ELC 243 - Programmable Logic Controllers.....**(4:3:3)**
This course covers the fundamentals of programmable logic controllers (PLC) systems. Topics include ladder logic programming, analog and digital interfacing, identification and isolation of common system faults, and writing specific tasks. Prerequisites: ELC 125 and ELC 127

ELC 245 - Power RF.....**(4:3:2)**
The generation and delivery of radio frequency energy with emphasis on semiconductor processing. Topics covered include: plasma, oscillators, amplifiers, transmission lines and RF measurements. Prerequisites: ELC 124 and ELC 220 and ELC 235.

ELC 248 - Electro-Mech. Systems.....**(4:3:3)**
A course in the power and controls systems found in modern machines. Electrical topics include basic DC and AC electrical theory, circuits, electrical control components such as switches, relays, transformers, contactors, motors, servos, and electrical safety. Mechanical components include couplings, gear drives, belting, chain drives and how the electrical components are incorporated into a function system. Pre-requisites: MAT 182 and PHY 205

ELC 260 - Biomedical Instrumentation.....**(4:3:3)**
This course introduces the operation and maintenance of biomedical equipment tthrough classroom and laboratory environment. Students learn to evaluate, test, troubleshoot, and repair various types of equipment commonly used in the medical field. Prerequisites: ELC 226 or concurrent

ELC 261 - Biomedical Instrumentation II.....**(4:3:3)**
This course reinforces and applies the operation and maintenance of biomedical equipment through classroom and laboratory environment. Students strengthen skills to evaluate, test, troubleshoot, and repair various types of equipment commonly used in the medical field. Prerequisites: ELC 260

ELC 265 - Intro to Digital Systems.....**(3:2:4)**
This course covers analysis and design of logic circuits. Topics include Boolean algebra and its application to switching circuits, simplification of switching functions, and design of logic circuits at gate level and with MSI and LSI components. Analysis and design of synchronous and asynchronous sequential state machines are also covered. Prerequisites: CEN 100 and CSC 114

ELC 266 - Analog Circuits I.....**(4:3:4)**
This course covers the laws of the electric circuit, analysis of alternating current (AC) and direct current (DC) circuits, network equations, and network theorems. Prerequisites: CEN 100 and MAT 282 and PHY 281

ELC 270 - Process Instrumentation I.....**(4:3:2)**
This course covers theory, application, tuning and troubleshooting of industrial control using proportional- integral-derivative (PID) control algorithms. Topics include pressure, level, and temperature devices and their measurment. Prerequisites: ELC 101 and (PHY 111 or PHY 205 or PHY 281)

ELC 271 - Process Instrumentation II.....**(4:3:2)**
Theory and application of temperature control including mechanical bulb systems, thermocouples, resistance and radiomatic instruments, control loops, calibration, and application. Theory and application of flow, humidity, pH, and viscosity instrumentation. Prerequisites: ELC 270

ELC 272 - Electronic Circuit Analysis I.....**(4:3:4)**
This course introduces the physical principles of solid state electronic devices. Topics include a quantitative study of elementary circuits including biasing, linear power amplifiers, low-frequency small signal analysis, multiple transistor circuits, and feedback. Prerequisite: ELC 266

ELC 275 - Microprocessor Systems.....**(4:3:4)**
This course introduces microprocessors as embedded devices. Emphasis is on Input/Output techniques, interrupts, real-time operation, high-level code debugging and interfacing to various types of sensors and actuators. Projects that address various embedded applications are a major part of the course. Prerequisites: CIS 211 and ELC 265 and ELC 266 or concurrent

ELC 282 - Signals and Systems.....**(4:4:0)**
This course is an introduction to signals and systems, with an emphasis on time and frequency characterization of linear, time-invarient systems. Topics include discrete and continuous time systems, sampling, and Fourier, Laplace, and Z transforms. Application examples include medical imaging, radar, audio and image processing, virus delivery protocols, and biological networks. Prerequisite: MAT 282

ELC 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ELC 290 - Internship.....**(4:1:9)**
Applied experience through a supervised work situation such as a campus repair shop, computer store or related business and industry. Prerequisites: ELC 130

ELC 291 - Biomed Electronics Internship.....**(3:0:10)**
This course provides the student with experience working in a clinical engineering environment at a local hospital. The student applies learned knowledge and skills to technical situations while learning about professional growth, ethics, and maintenance philosophies. Prerequisites: ELC 226 and 260

ELM 110 - Intro To Computers & Tech......**(3:2:2)**
An introduction to problem solving by computer methods with specific emphasis on solution of scientific and engineering technology related problems. Solution methods will include the use of DOS, mathematics applications software, engineering analysis software, and word processor. Prerequisite: Test score or ENG 051 and Test score or RDG 051

ELM 130 - Industrial Electricity.....**(3:2:4)**
This course provides an overview of three phase circuits, protective devices, transformer connections, motors, motor starters, and industrial maintenance techniques. Electrical and solid state motor controls are introduced. Emphasis is placed on electrical and industrial safety circuits. Prerequisites: MAT 140 or concurrent

ELM 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

ELM 205 - Mechanisms and Design ..... **(3:2:4)**
This course provides an introduction to tools, drawings, and mechanical drive components found in industrial and manufacturing environments. Students become familiar with the installation, operation, maintenance, and repair of mechanical drive systems. Prerequisites: MAT 140 or concurrent.

ELM 210 - Industrial Electricity ..... **(4:3:2)**
An overview of three-phase circuits, protective devices, transformer connections, motors, motor starters, and an introduction to solid state control and programmable controllers. Prerequisites: ELC 122 or ELC 120.

ELM 215 - Industrial Controls ..... **(4:3:3)**
A course in modern control of processes. Programmable controllers, numerical control, bar code readers, and static logic control will be covered. An introduction to the field of robotics is included. Prerequisites: ELC 122 or ELC 120

ELM 220 - Prop. & Behavior of Matrls ..... **(3:2:3)**
This course covers materials testing and aspects of strength of materials as it relates to the area of the properties and behavior of materials. An experimental approach will be taken to examining the tensile, compressive, and shear properties of different kinds of materials and material fastening. Prerequisites: MAT 142 or MAT 181

ELM 250 - Industrial Automation ..... **(3:2:4)**
This course reinforces and applies pneumatics, industrial controls, and networking to construct, modify, test, and troubleshoot a flexible manufacturing system. Topics include sensors, actuators, machine vision, human-machine interfaces, programmable logic controllers, and industrial networks. Prerequisite: ELC 243

ELM 252 - Fluid Power ..... **(3:2:3)**
This course provides an introduction to hydraulic and pneumatic systems for the transfer and control of power. Reinforcement of fluid power management through the use of programmable logic controllers is provided. Prerequisite: ELC 243 or concurrent.

ELM 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

ELM 290 - Electromechanical Internship ..... **(3:0:9)**
This course provides students an opportunity to gain experience working in an industrial or manufacturing environment. Students apply previously learned knowledge and skills to real-world technical situations while learning about professional growth, ethics, and maintenance philosophies. Prerequisite: ELM 252

EMT 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have prior approval of the department chairperson.

EMT 200 - Intro To Paramedic Technology ..... **(5:3:7)**
An introductory course that prepares the student for the role of paramedic. The topics covered include an overview of the emergency medical services (EMS) system, roles and responsibilities of the paramedic, wellbeing of the paramedic, ambulance operations and national and local issues which impact EMS. In addition, this course will provide the student with the theory and skills necessary to provide basic care in the prehospital environment. Prerequisites: BIO 130 Co-requisites: EMT 201 and EMT 207

EMT 201 - Patient Assessment ..... **(3:3:0)**
A comprehensive course in the theory and skills of patient assessment. The topics covered include patient history, techniques of physical examination, patient assessment, clinical decision making, communications and documentation of findings. Prerequisites: BIO 130 Co-requisites: EMT 200 and EMT 207

EMT 202 - Medical Emergencies I ..... **(3:3:0)**
This comprehensive course provides students with theory and skills related to the pathology, assessment, and management of adult patients with various medical conditions. Topics include diseases involving these systems: respiratory, neurologic, endocrine, immune, gastronintestinal, and genitourinary. Topics covered include diseases of those systems, such as physiology, pathology, pharmacology, and medication administration. PREREQUISITES: EMT 200 and EMT 201 and EMT 207 CO-REQUISITES: EMT 203 and EMT 217

EMT 203 - ALS Skills Lab I ..... **(3:0:10)**
A comprehensive course focusing on advance life support (ALS) skills associated with the current and anticipated paramedic scope of practice. Emphasis is placed on basic and advanced airway management, non-invasive monitoring, and electrical therapies. PREREQUISITES: EMT 200 and EMT 201 and EMT 207 CO-REQUISITES: EMT 217

EMT 204 - Special Populations ..... **(4:4:0)**
A comprehensive course focusing on the pathophysiology, assessment and management of the neonatal, pediatric, geriatric and special needs patient. Prerequisites: EMT 202 and EMT 203 and EMT 211 and EMT 217. Co-requisites: EMT 213 and EMT 227

EMT 207 - Paramedic Clinical I ..... **(1:0:4)**
A supervised clinical experience is provided in pertinent clinical and prehospital settings correlating with the knowledge, skills and techniques presented in EMT 200 and EMT 201. Emphasis is placed on basic life support and patient assessment skills. Prerequisites: BIO 130 Co-requisites: EMT 200 and EMT 201

EMT 211 - Cardiology ..... **(4:4:0)**
This comprehensive course covers the pathophysiology, assessment and management of adult patients with diseases involving the cardiovascular system. Emphasis is placed on basic and advanced cardiac monitoring, acute coronary syndromes and peripheral vascular disease. Prerequisites: EMT 200 and EMT 201 and EMT 207. Co-requisites: EMT 203 and EMT 217

EMT 212 - Medical Emergencies II ..... **(3:3:0)**
A comprehensive course that covers the pathophysiology, assessment and management of adult patients with various medical conditions. Emphasis is placed on diseases involving the renal, urological, gastrointestinal, and hematological systems. Prerequisites: EMT 202 and EMT 203 and EMT 211 and EMT 217. Co-requisites: EMT 213 and EMT 227.

EMT 213 - ALS Skills Lab II ..... **(3:0:10)**
This course, a continuation of ALS Skills Lab I, focuses on advanced

life support (ALS) skills associated with the current and anticipated paramedic scope of practice. Emphasis is placed on trauma management and scenario- based instruction. Prerequisites: EMT 202 and EMT 203 and EMT 211 and EMT 217 Co-requisites: EMT 227

EMT 214 - Legal Issues/Research.....**(3:3:0)**
This course covers the legal principles that govern health care, including documentation, the Patient Bill of Rights, liability, confidentiality, and specialized topics concerning emergency medical services. Protocols and laws specific to the State of Delaware will be emphasized. Also included is an overview of the collection and management of data associated with prehospital and preventive services. Prerequisite: EMT 200

EMT 215 - Trauma Emergencies.....**(2:2:0)**
A comprehensive course that covers the pathophysiology, assessment and management of patients who experience traumatic injuries. Prerequisites: EMT 202 and EMT 203 and EMT 211 and EMT 217. Co-requisites: EMT 213 and EMT 227.

EMT 217 - Paramedic Clinical II.....**(3:0:15)**
A supervised clinical experience is provided in pertinent clinical and prehospital settings correlating with the knowledge, skills and techniques presented in EMT 202, EMT 203 and EMT 211. Emphasis is placed on advanced patient assessment, airway management and team leader development. Prerequisites: EMT 200 and EMT 201 and EMT 207. Co-requisites: EMT 203.

EMT 227 - Paramedic Clinical III.....**(3:0:15)**
A supervised clinical experience is provided in pertinent clinical and prehospital settings correlating with the knowledge, skills and techniques presented in EMT 204, EMT 212, EMT 213 and EMT 215. Emphasis is placed on trauma care, pediatric care and team leader practice. Prerequisites: EMT 202 and EMT 203 and EMT 211 and EMT 217. Co-requisites: EMT 213.

EMT 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

EMT 290 - Paramedic Field Clinical.....**(4:1:15)**
A supervised clinical experience is provided in the prehospital setting. Students must manage trauma and medical patients across all age groups as team leader. Prerequisites: EMT 204 and EMT 212 and EMT 213 and EMT 214 and EMT 215 and EMT 227.

ENG 005 - Basic Writing.....**(4:4:0)**
A developmental course designed to improve mechanics, usage and sentence and paragraph writing. Additional resources are available for skill enhancement. Prerequisites: None.

ENG 006 - Introductory Reading & Writing(7:7:LAB_HOURS)
This introductory course covers fundamental reading and writing skills for success at the developmental level. Reading and writing activities are integrated to provide continuity and practical application.

ENG 007 - Intro Reading & Writing (ACC) . **(2:2:LAB_HOURS)**
This accelerated introductory course covers fundamental reading and writing skills for success at the developmental level. Reading and writing activities are integrated to provide continuity and practical application. Prerequisites: Test scores

ENG 051 - Pre-Tech Writing.....**(4:4:0)**
A review course designed to provide reinforcement in writing skills before taking English I. Topics include applied writing, sentence structure, and usage. Additional resources are available for skill enhancement. Prerequisites: Test score or ENG 005 or ENG 006 or ENG 099 or NCS 051 or NCW 051 or ESL 034 or ESL 100 or ENG 121 or ENG 125.

ENG 090 - Reading & Writing..... **(5:5:LAB_HOURS)**
This course provides reinforcement in writing skills and in reading fluency and comprehension skills. Reading and writing activities are integrated to provide continuity and practical application. Prerequisites: Test Scores or (ENG 005 and RDG 005) or ENG 006 or ENG 007 or higher

ENG 091 - Reading & Writing (ACC)..... **(2:2:LAB_HOURS)**
This accelerated course provides reinforcement in writing skills and in reading fluency and comprehension skills. Reading and writing activities integrated to provide continuity and practical application. Prerequisites: Test scores

ENG 099 - Analytical Thkg, Rdg, & Wrtg.....**(7:5:2)**
A review course designed to provide reinforcement and application of analytical thinking, reading and writing skills before taking RDG 120 and ENG 121. Topics covered include comprehension and vocabulary skill development that equip students with a mastery of language and enable students to increase reading flexibility; articulate thoughts clearly and effectively both orally and in writing; research, evaluate and acknowledge credible sources, and develop proficient, clear, and logical writing. ENG 099, a combined RDG 051 and ENG 051 course, is typically offered in the fall and spring semesters as a concurrent course with SSS 101, Mastering College Life or SSS 102, Personal/ Career Development. Prerequisites: (Test score or ENG 005 or ENG 006 or ENG 051 NCS 051 or NCW 090 or ESL 034 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 005 or ENG 006 or RDG 051 or NCS 052 or NCW 091 or ESL 032 or ESL 100 or RDG 120) and (SSS 101 (concurrently) or SSS 102 (concurrently)).

ENG 100 - Grammar Essentials..... **(1:1:LAB_HOURS)**
This course is designed to provide instruction in grammar fundamentals. Topics include sentence structure, sentence variety, punctuation, agreement, and pronoun usage. Additional resources are available for skill enhancement. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120).

ENG 101 - Crit Thinking & Acad Writing... **(3:3:LAB_HOURS)**
This college-level course is designed to teach the concepts of critical thinking and reading skills in the context of written response and essay writing. This course introduces and reinforces the skills necessary to complete academic essays and to repond to diverse texts in meaningful ways. Prerequisites: Test scores or (ENG 051 and RDG 051) or ENG 090 or ENG 091 or higher

ENG 102 - Composition and Research..... **(3:3:LAB_HOURS)**
This college-level course is designed to enhance writing, research, and speaking skills and to provide academic writing and reasoning skills to foster lifelong learning. Prerequisite: Test score or ENG 101 or RDG 120

ENG 121 - Composition.....**(3:3:0)**
A college-level course designed to improve writing skills through practice in writing paragraphs, essays, information-based documents, and reports. Additional resources are available for

skill enhancement. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or ENG 099

ENG 122 - Technical Writing-Comm ..... **(3:3:0)**
An advanced college-level course designed to enhance skills in the creation of professional communications and reports through interpretation and analysis of empirical and print data. Prerequisites: (Test score or ENG 121 or ENG 125) and (Test score or RDG 120).

ENG 124 - Oral Communications ..... **(3:3:0)**
A course designed to improve listening and oral communications skills through practice in individual and group activities. Prerequisites: ENG 121 or ENG 125 and Test score or RDG 120

ENG 125 - Honors Composition ..... **(3:3:0)**
This course which has higher level standards fulfills the requirement for ENG 121 composition. It emphasizes writing in a variety of modes and integrates the topic of technology and its influences. Prerequisites: Test scores

ENG 126 - Pre-Industrial Literature ..... **(3:3:0)**
A course designed to broaden the perspective of technical students by examining the relationship between cultural and social values prior to the Industrial Revolution as reflected in a variety of literary genres and media. Prerequisites: ENG 121 or ENG 125

ENG 127 - Post-Industrial Literature ..... **(3:3:0)**
A course designed to broaden the perspective of technical students by examining the relationship between cultural and social values after the Industrial Revolution as reflected in a variety of literary genres and media. Prerequisites: ENG 121 or ENG 125

ENG 128 - Black American Literature ..... **(3:3:0)**
A reading, writing, and analytical discussion course designed to historically trace the technical and cultural contributions of Blacks in America from the 1800's to the present as reflected in a variety of literary genres and media. Prerequisites: ENG 121 or ENG 125

ENG 129 - Creative Writing ..... **(3:3:0)**
This course is designed to foster creativity and improve writing skills through practice in writing paragraphs, short stories, and literature critiques. Prerequisites: RDG 051 and ENG 121

ENG 130 - Honors Tech. Writing & Comm ..... **(3:3:0)**
An honors course designed to provide students the opportunity to explore the interrelationships between the dimensions of leadership and effective decision making results in technical communication. Prerequisites: ENG 121 or ENG 125 and Test score or RDG 120

ENG 131 - Honors Oral Communication ..... **(3:3:0)**
A course designed to improve interpersonal, group, and public communication skills through investigation and support of individual leadership roles. Prerequisites: ENG 121 or ENG 125 and Test score or RDG 120

ENG 160 - Business Communication ..... **(3:3:0)**
ENG 160 is an advanced level course designed to develop the skills necessary for researching, planning, designing, writing, and editing of technical documents. Students gain experience in analyzing empirical and print data and selecting appropriate format, style, and tone. Requirements include the composition of a variety of documents tailored to specific professions. Prerequisites: ENG 121 and Test score or RDG 120

ENG 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

ENG 210 - Erly Chldhd/Elem Literary Stdy ..... **(3:3:0)**
An interactive children's literature course intended to provide an overview of various genres, cultural perspectives and universal themes in an age and developmentally appropriate context. Projects focus on the creation and presentation of literary concepts suitable for class room instruction. Prerequisites: Test score or RDG 120 and ENG 121 or ENG 125 and ENG 122

ENG 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

ENT 101 - Intro to Entrepreneurship ..... **(3:3:0)**
This course introduces the student to the responsibilities of the entrepreneur and the unique concepts of business ownership. Students will benefit from case studies and practical entrepreneurial experiences, including interaction with successful regional entrepreneurs. Topics include the importance of business planning and the role and nature of entrepreneurship as a mechanism for creating new ventures. Prerequisites: (((Test Scores or RDG 051 or higher) and (Test Scores or ENG 051 or higher)) or Test Scores or ENG 090 or concurrent or ENG 091 or concurrent or higher).

ENT 103 - Legal Issues for ENT ..... **(3:3:0)**
This course provides the entrepreneur with an understanding of the common legal issues encountered from the perspective of the business owner. Students apply the concepts learned to select their business structure, learn contract law, properly navigate government regulations and understand legal parameters related to the management of human resources. Prerequisites: (Test Scores or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test Scores or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (ENT 101 or BUS 101)

ENT 104 - Opportunity Analysis ..... **(3:3:0)**
This course examines the entrepreneur's role in the global economy as an exploiter of opportunities. Topics include the creative search for ideas, the innovation process, and the opportunity analysis to screen for the best ideas. Learning activities cover the decisions needed to transform an idea into a business opportunity. Topics covered include the common sources of ideas, the environmental scan, creating opportunities from ideas, quick industry analysis, competitor scan, decision making principles and analytical techniques to screen opportunities for commercialization potential. Prerequisites: CIS 107 and (ENT 101 or BUS 101).

ENT 106 - Business Procedures ..... **(3:3:0)**
This course teaches entrepreneurs to state their business passion in practical terms with methods for analyzing their market and competition, setting achievable goals and focusing on strategic business planning. Students explore business processes in the entrepreneurial environment. Topics include the probability of risks along with the development of crisis management, disaster recovery, and business continuity plans. Prerequisites: (BUS 101 or ENT 101) and CIS 107

ENT 210 - ENT Business Process ..... **(3:3:0)**
ENT Business Process is the cornerstone of success. This course

teaches entrepreneurs to state their business passion in practical terms. Analyzing the market and competition, setting achievable goals, and creating a strategic business plan are emphasized. Understanding the probability of risks, along with developing crisis management, disater recovery, and the business continuity plans, provides entrepreneurs with a solid basis to achieve their vision. Prerequisites: (ENT 101 or BUS 101) and MGT 212 and

ENT 211 - Business Start Up Design ..... **(3:3:0)**
This course allows students to obtain the internationally recognized Entrepreneurship Kauffman FastTrac Certification. Students develop knowledge and skills in market needs identification, financial goal setting, product/service planning, market research and analysis, building organizational teams, business profitability, fund seeking and cash flow, and future business planning. Prerequisites: (ENT 101 or BUS 101) and ENT 106

ENT 220 - Leadership ..... **(3:3:0)**
This course explores the characteristics of organizational leaders and evaluates various theories related to leadership. It emphasizes the development of leadership skills that motivate others to implement the entrepreneur's vision. Leadership strategies and management techniques that promote team building and business success are also covered. Prerequisites: BUS 101 or ENT 101

ENT 225 - Entrepreneurial Experience ..... **(3:3:0)**
This course allows students to apply first-hand the procedures and techniques of owning and running a business. The student will acquire applied experience in an appropriate work situation through job shadowing, and internship, a business simulation or a student start-up business. Students will be expected to comply with the business regulations, laws, and policies for the applicable practicum. In internship and job shadowing cases, students will be supervised and evaluated by a professional designated by the facility based upon criteria provided by the instructor. (Note: Students will not receive compensation in any form for business participation.) Prerequisites: (ENT 210 or BUS 213 or MGT 218) and ENT 240 and MKT 212.

ENT 240 - Funding & Finance for ENT ..... **(3:3:0)**
This course covers sources of capital options, basic financial knowledge, and forecasting skills. Topics include ratio analysis, financial oversight, and cash flow necessary to develop and maintain a business. Prerequisites: (ACC 100 or ACC 101) and (Test Scores or MAT 140 or MAT 153 or higher)

ENT 285 - Business Plan Development ..... **(3:3:0)**
In this course, students prepare professional, comprehensive business plans that will guide student business start-ups and address capital funding. Students present their business plans to community leaders. Prerequisites: ENT 106 and ENT 211

ENV 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ENV 190 - Intro to Envtl Science & Tech ..... **(3:3:0)**
This course introduces environmental science, pollution control and environmental technology. It provides students with a basic understanding of the normal ecology of the planet and the risks associated with polluting the environment. Environmental pollution and control technology topics include safe drinking water, wastewater treatment, air pollution, solid waste and hazardous waste management. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or MAT 005 or NCS 005 or NCW 045 or MAT 075 or MAT 090 or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 181).

ENV 215 - OSHA Hazardous Waste Operation ..... **(2:2:1)**
This course utilizes lecture, guided discussion, video presentation, and student participation in extensive simulation and "hands-on" exercises as they relate to hazardous materials and hazardous waste. Upon successful completion students are awarded the 40-hour OSHA certification. Prerequisites: CHM 110

ENV 240 - Environmental Field Sampling ..... **(3:2:4)**
Study of the theory and techniques important in the sampling of various environmental matrices: ground water, surface water, agricultural discharges, soils, sediments, hazardous wastes, and air. Topics include design of sampling protocols sampling equipment and procedures, quality assurance/control data quality, reporting, environmental laws and regulations which impact the field of sampling, analysis, and waste characterization. Prerequisites: BIO 127 and CHM 130.

ENV 256 - Process Control ..... **(3:3:0)**
Introduction to the monitoring, operation, and control concepts for biological treatment processes. The primary emphasis is on the activated sludge water treatment process, but the technique of fixed film process operation is also covered. Topics covered include level monitoring, data acquisition, process control calculations, biological process analysis, and problem solving. Advanced topics discussed include filamentous bacteria identification, biological nitrogen removal, biological phosphorus removal, and current issues in the industry. Prerequisites: BIO 150 or BIO 125 and Test score or MAT 015 or MAT 016

ENV 260 - Water/Wastewater Process Dsgn ..... **(4:4:0)**
This course covers the engineering principles and design criteria of basic environmental control processes; coagulation/flocculation basins; clarifiers, gravity filters; activated sludge systems; stabilization ponds; chemical treatment processes for disinfection, nitrate and volatile organic compound (VOC) removal; advanced wastewater treatment processes for suspended solids; phosphate and nitrate removal; carbon absorption; and various wastewater reclamation processes. Prerequisites: BIO 150 or concurrent and CHM 110 and CET 125 and ENV 190 and MAT 181.

ENV 264 - Water Sources ..... **(3:3:0)**
A basic class for water resource managers. Includes surface and groundwater sources. Covers hydrology, water quality, laws and regulations, flow measurements, storage, intake structures, wells, materials and equipment line repair, fire hydrant maintenance, cross-connection control, storage, water quality, pump stations, cleaning and maintenance of lines, and infiltration inflow monitoring. Prerequisites: Test score or RDG 051 and Test score or ENG 051 and Test score or MAT 012

ENV 267 - Water Treatment ..... **(4:3:2)**
An in-depth survey of the processes, theory, application, and operation of potable water treatment systems. Topics covered include the theory and operation of mixing systems, coagulation chemistry, monitoring optimization of chemical applications, flocculation, sedimentation, water filtration, disinfection, water softening, ion exchange, membrane processes, and treatment plant instrumentation and control. Prerequisites: Test score or RDG 051 and Test score or ENG 051 and Test score or MAT 015 or MAT 016

ENV 268 - Industrial Waste Management ..... **(3:3:0)**
Study of basic industrial waste treatment processes and procedures, including: environmental impact statements; stream protection measures; NPDES system and permits; stream organic loading computations; waste treatment economics; waste volume reduction; flow equalization and proportioning; neutralization; design and operating principles of treatment processes for suspended, colloidal, inorganic and organic dissolved solids; federal pre-treatment requirements; specific case studies. Prerequisites: BIO 127 and CHM 130 and MAT 181.

ENV 271 - Principles of Site Assessment ..... **(2:2:0)**
This course provides a detailed study of the legislative background, standards and procedures for carrying out Phase I Site Assessments. Topics include legislation, assessment hierarchy, liabilities, the Transaction Screen Process, Phase I assessment procedures, and hazardous materials. Prereqisites: ENG 102 and ENV 190

ENV 275 - Environmental Sustainability ..... **(3:3:0)**
This course introduces the critical areas of sustainable growth, design and development. Emphasis is on Delaware-specific growth and environmental issues, including water quality, habitat, stormwater and drainage, energy savings, and sea-level rise. Students identify development options that will result in more sustainable places to live and work. Prerequisites: (MAT 181 or MAT 185 or MAT 281) and (Test score ENG 102 or ENG 121) and ENV 190 and CET 144 and CET 240.

ENV 276 - Honors Envrmntl Internship ..... **(2:0:6)**
This course provides work experience in research, industry, service, manufacturing or other facilities in a related field. Prerequisite: Department Approval

ENV 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ENV 292 - Wastewater Sys & Solid Hndling ..... **(4:3:2)**
Develops a basic understanding of wastewater systems operations, including primary sedimentation, disinfection, aerobic and anaerobic sludge digestion, oxidation ponds, bio-filters and bio-reactors, and solids handling, disposal, and management. Also deals with centrifugation, gravity, concentration, gravity thickening, flotation thickening, filter presses, vacuum presses, incineration, land fill and land application. Laboratory control procedures and sludge conditioning are also covered. Prerequisites: Test score or RDG 051 or ESL 100 or NCS 052 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 015 or MAT 016 or NCW 045 or MAT 075 or MAT 090 or MAT 135 or MAT 140 or MAT 141 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 251 or MAT 261 or MAT 281

ENV 293 - Mgmt of Wastewater/Water Fac ..... **(4:3:3)**
This course introduces students to the fundamental practices that are utilized in managing a water or wastewater facility. Topics include the functions of operator, operation and maintenance from a management perspective, regulatory compliance, reporting requirements, audits, safety and financial management. Prerequisites: (Test score or ENG 121 or ENG 125) and MAT 181 and (BIO 140 or BIO 150).

ENV 298 - Instrumentation & Pumping ..... **(3:2:2)**
Provides an introduction to the instrumentation processes and pumping systems used to monitor and control contemporary water and wastewater treatment and collection facilities. Measurement of temperature, pressure, liquid level and flow, and the transmission and control of these parameters are discussed. The identification, application, troubleshooting and repair of commonly found pumps and systems are also addressed. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or MAT 015 or or NCW 045 or MAT 075 or MAT 090 or MAT 135 or MAT 140 or MAT 141 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 251 or MAT 261 or MAT 281.

ERM 101 - Intro to Energy Technologies ..... **(3:3:0)**
This course provides an overview of the energy industry and the role of sustainable energy resourses in today's society. Students will learn about energy production and costs, the dynamics of worldwide energy consumption and growth, the principle methods by which energy is used, and its environmental and financial impacts and consequences. Prerequisites: Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 012 or NSC 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 141 or MAT 150 or MAT 153 or MAT 181

ERM 102 - Renewable Energy Sources ..... **(3:2:2)**
This course provides a comprehensive overview of renewable energies, including solar energy, wind power, hydropower, fuel cells, biomass, and alternative transportation options. Students will be taught the principles of solar home design, solar hot water, pool and space heating, and solar cooling. Prerequisites: (Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120) and (Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 150 or MAT 153 or MAT 181 or MAT 185) and ERM 101

ERM 103 - Electrical Lighting and Motors ..... **(3:2:2)**
This course covers the components of lighting systems and motors. Energy efficiency opportunities and environmental impacts in these areas are identified and analyzed. Prerequisites: (Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120) and (Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 150 or MAT 153 or MAT 181 or MAT 185) and ERM 101

ESL 022 - Beginning ESL Reading/Vocab ..... **(4:4:0)**
This beginning level reading course is designed for students to build their vocabulary, develop comprehension skills and expand their knowledge of basic grammatical structures. Topics from popular culture will be presented. Prerequisites: None

ESL 024 - Beginning Writing ..... **(4:4:0)**
The aim of the course is to help students develop the writing and vocabulary skills necessary for everyday communication as well as to build a foundation for further study. Prerequisite: None

ESL 026 - Beginning Grammar/Comm ..... **(8:8:1)**
This course introduces students to the grammar necessary for communication in basic everyday situations. Prerequisites: none

ESL 028 - Beginning Listenng/Speakng ..... **(4:4:0)**
In this beginning level listening and speaking course, students will listen to simple commands, directions, and limited conversations to do task-oriented activities. Students will use target structures and new vocabulary to talk about the basic topics. Prerequisites: None

ESL 031 - Personal Computers for ESL.....**(3:3:0)**
This course is designed to expose the non-native speaker of English to the computer keyboard, the basic parts of the computer, and simple work processing features. Emphasis is placed on keying, proofreading, and spelling by keying daily assignments and personal business letters. Prerequisites: ESL 022 and ESL 024 and ESL 026 and ESL 028.

ESL 032 - Intermediate Reading.....**(4:4:0)**
Students will read articles of high beginner-intermediate level difficulty. Emphasis will be placed on vocabulary expansion through context and basic comprehension. Students will also become acquainted with the college library. Prerequisites: Test score or ESL 022.

ESL 033 - Using Intermediate ESL I.....**(4:4:0)**
The principal focus of this course is on the structures (grammar) of the English language and the real life usage of those structures for every day communication. Students at this level expand the scope of their interactions in English to communicate in situations such as in the doctor's office or in a restaurant. Prerequisites: Two Test scores

ESL 034 - Intermediate Writing.....**(4:4:0)**
Students will compose simple, compound and complex sentences in short paragraphs which show unity and coherence. They are introduced to formal letter writing and electronic correspondence. Prerequisites: Placement or (ESL 024 and ESL 026).

ESL 035 - Using Intermediate ESL II.....**(4:4:0)**
The principal focus of this course is on the structures (grammar) of the English language and the real life usage of those structures for every day communication. Students at this level continue expanding the scope of their interactions in English to communicate in a variety of real-life situations. Prerequisites: Two Test scores or ESL 033

ESL 036 - Intermediate Grammar/Comm.....**(8:8:1)**
Students at this level expand their use of grammatical structures to facilitate communication in a variety of settings. Prerequisites: Placement scores or ESL 026

ESL 037 - Interm ESL Reading & Writing I.....**(3:3:0)**
Students will use a variety of selections appropriate for low intermediate ESL to develop reading comprehension and vocabulary skills. Readings will serve as prompts for the composing of correct sentences and cohesive, coherent paragraphs. Prerequisites: Two test scores or (ESL 022 and ESL 024 and ESl 026). Co-Requisite: ESL 033

ESL 038 - Intermediate Listening/Speakng.....**(4:4:0)**
A course intended for intermediate level ESL students. Through the use of task based listening activities and role plays, this course develops listening and speaking skills. The focus is on daily life situations. Prerequisites: ESL 028

ESL 039 - Interm ESL Reading&Writing II.....**(3:3:0)**
Students will use a variety of selections appropriate for intermediate ESL to begin developing academic reading and writing skills. They will also improve their comprehension and writing for work-related and interpersonal communication. Prerequisites: Three test scores or (ESL 033 and ESL 037). Co-requisite: ESL 035

ESL 042 - Advanced ESL Reading.....**(4:4:0)**
Using ESL readings of high intermediate through advanced level, students identify the main idea and supporting detail of paragraphs. Vocabulary expansion is highlighted. Periodicals are also used so students can read and discuss current events. Students are given an introduction to United States' history through short library research assignments. Prerequisites: Test score or ESL 032

ESL 043 - Using Advanced ESL I.....**(4:4:0)**
This course introduces students to the advanced level of ESL. Students use complex structures and expressions such as those used in expressing wishes, plans, and regrets. They will develop a mastery of their new language through a series of carefully sequenced listening, speaking, reading, and writing activities. Emphasis will be on high-intermediate to low-advanced skills and concepts. Prerequisites: Two Test scores or ESL 035

ESL 044 - Advanced ESL Writing.....**(4:4:0)**
This is an advanced writing course for the non-native speaker of English. Students develop their ability to consistently produce grammatically and contextually correct sentences in various tenses. Students also develop their ability to create unified, coherent paragraphs with a controlling idea and adequate supporting details. Prerequisites: Two Test scores or (ESL 034 and ESL 036).

ESL 045 - Using Advanced ESL II.....**(4:4:0)**
This course continues the study of the advanced level of ESL. Students use complex structures and expressions such as those needed to discuss hypothetical situations and to express opinions. They develop a mastery of American English through a series of carefully sequenced listening, speaking, reading, and writing activities. Emphasis is on advanced to high advanced grammatical structures and skills. Prerequisites: Two Test scores or ESL 043.

ESL 046 - Advanced Grammar/Communication.....**(8:8:1)**
Students are introduced to complex grammatical structures and develop mastery of English through a series of carefully sequenced communicative activities. Prerequisites: Placement scores or (ESL 034 and ESL 036).

ESL 047 - Adv ESL Reading & Writing I.....**(3:3:0)**
Students will use a variety of selections appropriate for advanced ESL to develop reading skills and vocabulary. Students develop ability to consistently produce grammatically and contextually correct sentences. They produce unified, coherent paragraphs with a controlling idea and supporting details. Prerequisites: (Two test scores or (ESL 035 and ESL 039) or (ESL 034 and ESL 036). Co-requisite: ESL 043

ESL 048 - Advanced Listening/Speaking.....**(4:4:0)**
This course develops listening and speaking skills for advanced-level ESL students through interactive and task-based activities. Emphasis is on understanding and expressing ideas and opinions in extended discourse on a broad range of topics. Prerequisites: Placement or (ESL 036 or ESL 038).

ESL 049 - Adv ESL Reading & Writing II.....**(3:3:0)**
Students will use a variety of selections appropriate for advanced ESL to develop reading skills and vocabulary. Students develop ability to consistently produce grammatically and contextually correct sentences. They produce unified, coherent paragraphs with a controlling idea and supporting details. Prerequisite: Three test scores or ESL 047. Co-requisite: ESL 045

ESL 050 - Pre-Tech ESL I.....**(3:3:0)**
Paired with ENG 051, this course is the first of a two-semester sequence of college preparation for non-native speakers of English. Focus will be placed on reading college texts and listening/note taking for academic lectures. Students must complete ESL

050/051 and ENG 051 in order to be accepted into a College diploma or degree program. Prerequisites: Three test scores or (ESL 045 and ESL 049) or (ESL 042 and ESL 044 and ESL 046).

ESL 100 - ESL for Degree Programs ..... **(8:8:0)**
Students develop the skills necessary for success in college courses, progressing from writing of paragraphs to essays, to a thesis paper. Reading and listening exercises will help students develop the comprehension and note taking skills required for college level lectures and texts. Prerequisites: Three Test scores or (ESL 042 and ESL 044 and ESL 046).

ESL 110 - American Experience Seminar ..... **(1:1:0)**
This course will familiarize ESL students with community resources and offer an opportunity to experience American culture through participation in local and regional activities and events. Prerequisite: None

ESL 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have prior written approval of the department chairperson.

ESL 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have prior written approval of the department chair.

ESM 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ESM 199 - Advanced Credit Emer Serv Mgmt .....
(30:LECTURE_HOURS:LAB_HOURS)
Thirty credits of approved course work offered through the Delaware Emergency Management Agency, the Delaware State Fire School, and other emergency management, fire, safety, and police training institutions and academies must be transferred into this program. See the Course Articulation List for training that has been pre-approved as meeting the technical course requirements. Students without ESM relevant work experience must complete a six credit practicum offered through Delaware Technical and Community, College, as part of the 30 credit requirement. When the 30 technical credit requirement is documented through established procedures as met, advanced credit will be awarded through ESM 199. Prerequisites: None

ESM 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ETH 100 - Intro to Latino Cultures ..... **(3:3:0)**
Students will gain an awareness of the diversity of the Spanish speaking world. Readings and videos (in English) will be used to present highlights of Latino cultures and people, including Latino groups in the United States. Prerequisites: none

ETH 101 - Intro to Pan African Cultures ..... **(3:3:0)**
This course introduces students to African cultures and highlights the biographies of African-Americans who have made significant contributions to society, Students will gain an awareness of the diversity of Pan-African cultures. Prerequisites: Test score or ENG 005 and Test score or RDG 005

ETH 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

ETH 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

EXS 100 - Introduction to Exercise Scien ..... **(4:3:2)**
This course presents an overview of scientific principles, methodologies, and research as applied to exercise and physical fitness. The emphasis is on physiological responses and adaptations to exercise. Coordinated laboratory experiments are an integral part of this course. Prerequisites: BIO 120

EXS 101 - Functional Kinesiology ..... **(3:2:2)**
The study of the relationship between the muscular and skeletal systems acting to provide motion through the biomechanical leverage system. The course will focus on the biomechanics of muscular actions during strength training exercises and cardiovascular exercises using various types of equipment. Prerequisites: BIO 120

EXS 105 - Conditioning & Strength Trning ..... **(4:3:2)**
Conditioning and Strength Training presents a thorough review of skeletomuscular anatomy, physiology, and kinesiology along with basic principles of aerobic conditioning, strength training, flexibility and stretching. Prerequisites: EXS 100 and EXS 101

EXS 120 - Wellness and Health Promotion ..... **(3:3:1)**
The focus of this course is on personal health management and behavior change techniques used for individual and group populations. Through case studies and small group learning the student will analyze current life styles and propose safe and effective life style modifications to optimize health and wellness. Prerequisites: EXS 100 and EXS 101

EXS 135 - Exercise Science Clinical I ..... **(2:1:5)**
This course is a supervised clinical experience performed in a fitness facility which provides the student with experience in fitness evaluation, prescription, and instruction. Prerequisites: EXS 105 and EXS 120 and HLH 110

EXS 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

EXS 200 - Nutrition for Sport & Exercise ..... **(3:3:0)**
This course covers the functions and sources of nutrients, energy balance, and metabolism with an emphasis on health promotion and disease prevention. Supplements, weight control, myths and fallacies, evolution of popular diets, and dietary approaches for specific physical activity are examined. Prerequisites: BIO 115 and EXS 135.

EXS 205 - Fitness for Special Populatns ..... **(3:3:1)**
This course presents the pathophysiological basis of disease of various body systems. Appropriate exercise prescription and precautions for special populations are considered. Prerequisites: EXS 135 and BIO 121

EXS 225 - Advanced Exercise Testing ..... **(4:3:2)**
This course presents techniques for assessing cardiovascular fitness, flexibility, body composition, muscular strength,

and pulmonary capacity. Safety guidelines and precautions are emphasized. Prerequisites: EXS 135 and MAT 153

EXS 230 - Health Fitness Instruction ..... **(4:3:2)**
This course presents the information covered in the American College of Sports Medicine (ACSM) Health/Fitness Instructor certification examination. Methods to assess design, and implement individual and group exercise and fitness programs for apparently healthy individuals and individuals with controlled disease are examined. Case studies and coordinated laboratory activities are an integral part of this course. Prerequisites: EXS 135 and (ENG 124 or ENG 131)

EXS 235 - Exercise Clinical II ..... **(5:1:21)**
This course is comprised of two eight week supervised clinical experiences which provide the student with in- depth experience in fitness evaluation, prescription, and instruction. Management skill concepts will also be presented. Prerequisites: EXS 200 and EXS 205 and EXS 225 and EXS 230

EXS 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

FET 111 - Intro to Fire Protec Eng Tech..... **(4:3:3)**
This course is a study of the nation's fire experience with an overview of the technology and techniques used to protect people and property. Fire codes, detection and alarm systems, water-based sprinkler systems. introductory hydraulic principles, and building construction types are covered along with human behavior in fire situations. Prerequisites: (Test scores or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test scores or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181) and (Test scores or RDG 051 or NCS 051 or ENG 099 or ESL 100 or RDG 120).

FET 112 - Fire Protection Systems ..... **(3:2:2)**
This course of study will concentrate on the fire protection equipment which can be installed in a building to protect both the occupants and the property from unwanted fires. The first portion of the course will be devoted to automatic fire sprinklers and special fire extinguishing systems. The various types of sprinkler heads, valves and systems will be discussed and demonstrated utilizing the Fire Protection Systems Laboratory for student activities. The second portion of the course will be devoted to a study of the various types of fire/heat/smoke detection devices and fire alarm systems. Prerequisites: FET 111

FET 117 - Principles of Fire Alarms..... **(3:3:0)**
This course is for those persons who are working in the fire alarm industry now and wish to increase their knowledge and skills or for those persons who are seeking employment in this exciting branch of Fire Protection. Students will study several technical subjects which are vital to the understanding of fire alarm systems. These subjects include, but are not limited to: basic electricity, initiating devices, alarm systems concepts, installation, testing and maintenance. Prerequisites: None

FET 130 - Fire Safety Computer Appl ..... **(3:2:2)**
The use of off-the-shelf programs suitable for fire protection and safety management fields are highlighted in this course. Students receive instruction and practice in word processing, spreadsheets, and database management computer programs. Prerequisite: None

FET 160 - Codes and Standards..... **(4:3:2)**
Fire prevention regulations, the Life Safety Code, and building codes are covered. Fire protection standards and their role in safeguarding people and property are discussed. Exercises apply lecture subjects to realistic situations. Prerequisites: FET 111

FET 172 - Fire Alarm Design I ..... **(4:3:3)**
Using computer-aided drawing, students prepare working drawing of fire alarm systems which comply with current codes and standards. Prerequisites: FET 120 and EDD 171.

FET 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

FET 200 - Industrial Fire Hazards..... **(4:3:3)**
The industrial environment serves as a background for this study of fire hazards, causes, and engineered prevention technologies. Unique fire protection challenges are discussed and observed during field trips. The duties of the fire prevention and loss control manager are covered. The fire protection segments of the OSHA Act are emphasized. Prerequisites: FET 160

FET 201 - Loss Control Procedures ..... **(3:3:0)**
The detection, correction, and monitoring of unsafe acts and conditions are covered in this course. Loss prevention activities in vehicle operations, workmen's compensation issues, and other non-fire related potential loss situations are discussed. Prerequisites: FET 200

FET 221 - Fire Design I..... **(4:3:3)**
Using computer-aided drawing and fire protection industry specific software, students prepare code compliant working drawings and hydraulic calculations for automatic sprinkler system designs. Prerequisites: EDD 171 and FET 112 and FET 160

FET 222 - Fire Protection Design II ..... **(4:3:3)**
An advanced course utilizing computer-aided drafting to prepare working drawings of CO2 systems, foam-water sprinklers, fire detection, and fire alarm systems. The drawings will comply with the current codes and standards. Prerequisites: FET 221

FET 240 - Fire Service Administration ..... **(4:3:3)**
This course introduces the student to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis is placed on fire service leadership from the perspective of the company officer. Exercises apply lecture subjects to realistic situations. Prerequisites: Test score or ENG 121 or ENG 125 and National FireFighter Level II Certificate.

FET 250 - Fire Investigation..... **(4:3:3)**
This course covers procedures for the analysis of the origin and cause of accidental and incendiary fires. Topics include types of fire causes, conducting origin and cause analysis, collection and preservation of evidence, scene security, detection and determination of accelerants, courtroom procedure and testimony, and documentation of the fire scene. Laboratory exercises apply lecture subjects to realistic situations including the analysis of small and full scale demonstration fires. Prequisites: FET 200 and (ENG 122 or ENG 130) and National FireFighter Level II Certification.

FET 261 - Inspections ..... **(4:3:2)**
Fire and safety inspections are important in a comprehensive

loss control program. The knowledge and skills necessary to perform effective inspections are covered in this course. Inspections of various occupancies will be completed and reported by the students. Prerequisites: FET 200

FET 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

FIN 100 - Intro to Financial Literacy ..... **(1:1:0)**
A study of the basics of finances. Topics to be discussed include income sources, purchasing power, financial decisions and planning, banking procedures, risk management, buying and credit decisions, and savings and investing options. Prerequisites: Test score or MAT 005 or NCS 005 or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 141 or MAT 150 or MAT 181 and Test score or RDG 005 or or RDG 051 or NCS 052 or ESL 032 or ESL 100 or RDG 120

FIN 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

FIN 221 - Money and Banking ..... **(3:3:0)**
A study of the commercial and central banking systems with emphasis on the Federal Reserve Bank, the effects of changes in the money supply, interest rates on the economy, and the roles of financial intermediaries and financial markets in US and global economies. Prerequisites: ECO 111 and ENG 121

FIN 241 - Finance ..... **(3:3:1)**
Basic understanding of all types of business financing. Topics covered include forecasting, working capital management, cash budgeting, capital budgeting, debt financing, cost of capital, risk analysis and optimum capital structure. Prerequisites: ACC 112 and ENG 121

FIN 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

FIN 291 - Finance Honors ..... **(3:3:1)**
Basic understanding of all types of business financing. Topics covered including forecasting, working capital management, cash budgeting, capital budgeting, debt financing, cost of capital risk analysis, and optimum capital structure. In addition to the course outline of FIN 241, Finance Honors includes an appropriate approved project. Prerequisites: ACC 112 and FIN 221 and ENG 121.

FSM 123 - Intro to Food Service ..... **(3:3:0)**
The study and application of supervisory and managerial techniques used in quantity food preparation. Prerequisite: Test score or ENG 051 and Test score or RDG 051 and Test score or MAT 012

FSM 151 - Field Experience I ..... **(3:1:5)**
This Supervised Field Experience is designed to give the student an introductory laboratory in a food service operation with emphasis on hands-on training in safety, sanitation, nutrition management, recipe management, equipment usage, inventory controls and interviewing. Prerequisites: FSM 210

FSM 152 - Field Experience II ..... **(3:1:5)**
This Supervised Field Experience will serve to aid the student in understanding the managerial or administrative aspects of food service. Prerequisites: FSM 151

FSM 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

FSM 210 - Quantity Food Production ..... **(3:2:3)**
Lecture and lab emphasis is on organization, staff requirements, and quantity foods preparation. Portion control, planning, and the basics acquired in Introduction to Food Preparation are applied to quantity production in the kitchen, pantry, and bake shop. Prerequisites: CUL 121

FSM 265 - Effectv Food Serv Mrkt & Mngnt ..... **(3:3:0)**
Effective Food Service Marketing and Management is designed to introduce the fundamentals of food service marketing and kitchen facilities management to the student. It includes the foundations of marketing in relationship to the consumer with emphasis on advertising, product promotion menu design and pricing strategies. Kitchen facilities management for the food service manager and the effects on marketing are explored. Prerequisites: ENG 121 and MAT 120

FSM 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

FSY 100 - Intro to Food Science ..... **(3:3:LAB_HOURS)**
This course introduces the field of food science and technology and reviews the sciences used to provide knowledge of food technology, the importance of food in providing proper nutrition and the opportunities for employment in the food industry. Prerequisites: TBD

FSY 110 - Food Safety & Sanitation ..... **(4:3:2)**
This course is designed to provide an understanding of food safety and sanitation. This course will introduce safe food handling practices, solve consumer problems concerning sanitation and public health issues related to foodservice establishments. This course will include a hands on learning laboratory. Students will prepare for the National ServSafe certification exam provided by the National Restaurant Association. Prerequiste: FSY 100

FSY 120 - Technology of Food Processing **(3:3:LAB_HOURS)**
DESCRIPTION

FSY 205 - Principles of HACCP ..... **(3:3:0)**
This course provides a basic understanding of Hazard Analysis Critical Control Points Systems (HACCP). This course identifies and applies the seven principles of the HACCP system which covers prerequisite programs, designing flow charts, identifying food safety hazards, establishing critical control points, monitoring procedures, verification, and record-keeping procedures within a food manufacturing industry. This course prepares students for International HACCP Alliance certification. Prerequisite: FSY 220 and FSY 225 and (((Test Score or RDG 120) and (Test Score or ENG 121)) or Test Score or ENG 101 or ENG 102 or ENG 122).

FSY 210 - Food Safety & Defense ..... **(3:3:LAB_HOURS)**
DESCRIPTION

FSY 220 - Food Chemistry ..... **(4:3:2)**
DESCRIPTION

FSY 225 - Microbiology of Foods ..... **(4:3:2)**
DESCRIPTION

FSY 290 - Food Safety Internship ..... **(5:1:12)**
The Food Safety internship applies and combines classroom and laboratory knowledge to actual work experiences. The purpose of this course is to provide a supervised work experience for the students to gain knowledge and experience related to food science and food safety in the food production industry. Prerequisites: FSY 110 and FSY 120 and FSY 210 and FSY 220 and FSY 225

FSY 291 - Seminar in Food Safety ..... **(2:2:LAB_HOURS)**
This course is designed to facilitate the successful transition of potential graduates into a professional career or transfer to a bachelor's degree program in the field of food safety. The seminar will provide information to obtain a career in food safety, professional development skills, enhance interview and presentation skills. Corequisite: FSY 290

GEO 105 - Geology and the Environment ..... **(3:2:2)**
This course examines interrelationships between humans and the physical environment. Topics covered include: geologic factors in land use planning, hydrology, geologic hazards, waste disposal and pollution, contaminant transport, conservation of earth's natural resources, climate, energy and geologic resource development, population dynamics, risk, and related current issues in environmental geosciences. Prerequisites: MAT 181 and (((Test score or RDG 120) and (Test Score or ENG 121)) or Test score or ENG 102 or concurrent or higher)

GER 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

GER 201 - Introduction to Gerontology ..... **(3:3:0)**
This course provides an overview into the field of gerontology. It includes an understanding of psycho-social, biomedical, and socio-economic factors, as well as critical issues and potential problems of the elder population. Pre-requisites: Test score or ENG 051 and Test score or RDG 051

GER 221 - Ethics/Case Mgt in Gerontology ..... **(3:3:0)**
This course will explore codes of ethics and professional services for elders in various environments. Also addressed are factors and forces that impact case management such as federal and state regulations relevant to healthy as well as at-risk populations. Pre-requisites: Test score or RDG 120 and ENG 121 and PSY 121 and GER 201

GER 225 - Techniques of Elder Counseling ..... **(3:3:0)**
This course emphasizes the development of therapeutic communication skills and techniques in working with elders. Prerequisites: HMS 122

GER 230 - Assessment&Trmt/Gerontology ..... **(3:3:0)**
This course reviews various methods of assessing the needs of elders and the subsequent development of appropriate intervention/care plans in a range of service environments. Students will acquire skills to complete assessments and develop and document service plans within an interdisciplinary team. Prerequisites: Test score or RDG 120 and PSY 121 and GER 201 and ENG 121

GER 243 - Directed Practice-Gerontology ..... **(6:1:15)**
The student is placed in an agency and/or residential care facility which provides services to elders; skill development and learning will be experienced through supervised work with the elderly population. Prerequisites: CIS 107 and HMS 122 and HMS 123 and ENG 122

GER 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

GET 015 - Intro to Engr Fundamentals ..... **(4:3:3)**
An introduction to the basic engineering fundamentals. Students will review basic mathematical concepts, basic geometry, unit conversions and their applications to various engineering problems. Prerequisites: Test score or MAT 012

GET 075 - Engineering Fundamentals ..... **(3:2:2)**
An introduction to the engineering fundamentals. Students will be introduced to subject areas common to most engineering disciplines and how to develop and present solutions in a logical manner. Prerequisites: Test score or MAT 015 or MAT 016 or NCW 045 and GET 015 Co-requisite: MAT 075

GET 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

GET 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

GIS 101 - Introduction to GIS ..... **(3:2:2)**
This course introduces the hardware and software components of Geographic Information System (GIS) and reviews GIS applications. Topics include data structures and basic functions, methods of data capture and sources of data, and the nature and characteristics of spatial data and objects. Upon completion, students should be able to identify GIS hardware components, typical operations, products/applications, and differences between database models and between raster and vector systems. Prerequisites: (Test score or MAT 005 or NCS 005 or MAT 090 or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 181) and (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 051 or ENG 099 or ESL 100 or RDG 120).

GMM 904 - GM Training Pipefitter ..... **(45:0:0)**
Course credit awarded for successful completion of the GM apprenticeship pipefitter training program. Certification verifying journeyman status from the General Motors training facility is required.

HDM 101 - Intro Hmlnd Sec/Emrgncy Mngt ..... **(3:3:0)**
This course introduces the student to the various agencies that provide homeland security services and how they prepare for and respond to a wide variety of actual and potential emergencies. The legal and philosophical bases and enabling legislation for the existing governmental structures are also explored. Prerequisites: (ENG 051 or test scores) and (RDG 051 or test score)

HDM 103 - Info/Intel Shrg in Hmlnd Sec .....**(3:3:0)**
This course introduces students to the systems and methods used by United State intelligence agents, the venues and jurisdictional limits of various agencies, and the legal basis for intelligence gathering, analysis, and dissemination for homeland security purposes. Prerequisites: (ENG 051 or test scores) and (RDG 051 or test scores)

HDM 105 - Environmental Hazards..... **(3:3:LAB_HOURS)**
This course provides an overview of the environmental vulnerabilities of the United States and typical hazard mitigations and responses to various threats to our environmental resources and infrastructures. Pre-requisites: (Test scores or ENG 051) and (Test scores or RDG 051) and HDM 101

HDM 110 - Issues Hmland Sec & Emg Mgt .....**(3:3:0)**
This course covers pertinent Department of Homeland Security enabling legislation, historical and recent disaster events, and the lessons learned. Students study the need to balance homeland security with individual rights in the context of a free and democratic society. Prerequisites: (Test Score or ENG 051 or higher) and (Test Score or RDG 120) and HDM 101

HDM 202 - Hmlnd Defn/Emerg Mgt 1st Rspnd.....
(3:3:LAB_HOURS)
This course covers the roles, responsibilities, and proper procedures first responders should utilize at the scene of events to treat injured persons, secure scenes and minimize loss of life. Prerequisites: Test score of ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and HDM 102

HDM 204 - All-Hzrds/Infra/Protection.....**(3:3:0)**
This course emphasizes the plans and procedures implemented by emergency management agencies as they prepare for and respond to a variety of emergency situations. Students study the elements of critical infrastructure protection in the United States and plans for continuity of operations in a pre/post-disaster environment. Prerequisites: HDM 101 and HDM 103 and HDM 105

HDM 225 - Supervision Leadership in E M .....**(3:3:0)**
This course covers the essential elements and principles involved in the development, implementation, and evaluation of the plans and policies used by emergency planning and response agencies. Aspects of leadership, planning, exercise design and evaluation, and grant management are also discussed. Prerequisites: HDM 101 and HDM 103 and HDM 204 and (Test Score or RDG 120 and ENG 121 or higher)) or Test Score or ENG 102 or higher).

HDM 235 - Homeland Def/Emer Mgt Intrnshp .....**(4:1:9)**
The final stage of the student's program. The student is placed in an emergency planning/response agency or a private sector business concerned with continuity of operations in a pre-/post-emergency environment. Students will learn through supervised participation in the work of the agency. Emphasis is placed on hands-on application of skills and knowledge. Prerequisites: (Test score or ENG 121 or ENG 125) and (Test score or RDG 120) and HDM 204.

HDM 244 - Introduction to Terrorism.....**(3:3:0)**
This course examines the roots and impact of international and domestic terrorism. It also examines the various typses of terrorism, such as religious, state- sponsored, and individual. Prerequisites: ENG 101 and PSY 121 and SOC 111

HIM 120 - ICD Coding I.....**(4:3:3)**
First in a two-course sequence: Introduces history and development of clinical vocabularies and classification systems. Principles and guidelines are introduced for using the ICD-9-CM system to code diagnosis and procedures in an inpatient setting. Disease and procedure coding is presented for selected body systems. Lab: Examples of patient records, and exercises using coding manuals and software tools, provide practice in coding and sequencing diagnosis and procedures. Prerequisites: BIO 108 and HIT 100.

HIM 121 - ICD Coding II.....**(4:3:3)**
This course builds on skill using the ICD-9-CM system to code diagnoses and procedures. Coding of conditions and related procedures not addressed in the previous course is covered, as are E codes, late effects and V codes. Issues of coding ethics and data quality as well as application of coding principles to electronic record systems are explored. Students will be introduced to related ICD-10 CM/PCS classifications. Lab: The lab component will provide practice in coding and sequencing diagnoses and procedures. Prerequisites: BIO 130 and HIM 120.

HIM 122 - CPT Coding .....**(4:3:3)**
Knowledge of clinical classification systems is expanded through presentation of principles of Current Procedural Terminology (CPT-4), used to code procedures performed by healthcare providers. Students assign procedure codes and apply guidelines for assignment of Evaluation and Management (E/M) codes and modifiers to case examples. The purpose and use of Healthcare Common Procedure Coding Systems (HCPCS) are reviewed. Application of coding principles to an electronic record system is explored. Prerequisites: HIM 121

HIM 130 - Legal Aspects of HIM..... **(3:3:LAB_HOURS)**
This course focuses on legal and regulatory issues in healthcare with emphasis on their application to healthcare information inservices and documentation of care. Students explore the rights and responsibilities of providers, employers, payers, and patients in a healthcare context. Topics include legal terminology pertaining to civil liability and judicial and legislative processes. Legal and regulatory issues surrounding the confidentiality of information and laws and regulations addressing release of information and retention of records are also examined. Prerequisites: BIO 121 and HIT 100. Corequisites: HIM 120 and HIM 131.

HIM 131 - Health Informatics/HIM Systems.....**(4:3:3)**
This course focuses on health record and information systems. Other topics include compliance, HIPAA, and databases. The course also has a lab component that focuses on abstraction and analysis of health records and health information. Site visits to various types of healthcare facilities will provide a practical application of information discussed in the classroom. Prerequisites: HIT 100

HIM 222 - Healthcare Reimbursement.....**(3:2:2)**
Students explore reimbursement and payment methodologies applicable to healthcare provided in various U.S. settings. Forms, processes, practices, and the roles of the health information professional are examined. Concepts related to insurance products, third-party and prospective payment, and managed care organizations are explored. Issues of data exchange among the patient, provider, and insurer are analyzed in terms of organizational policy, regulatory issues and information management operating systems. The importance of coding integrity is emphasized. Prerequisites: HIM 121 and HIM 130 and HIM 131.

HIM 225 - Technical Practicum.....**(3:1:6)**
The focus of this course is on the application of the following concepts: data collection, data verification, filing, abstraction, professionalism, legal issues, HIPAA, release of information, documentation guidelines, Electronic Health Records (EHR), record storage and imaging, the Master Patient Index (MPI), and database usage. This clinical course will be based at a healthcare facility or in the health information management lab. Prerequisites: HIM 121 and HIM 122 and HIM 222.

HIM 230 - Supervision & Organization..... **(3:3:LAB_HOURS)**
This course introduces the principles of organization and management/supervision and develops effective skills in leadership, motivation, and team building. It includes fundamentals of budgeting, equipment selection, marketing, and quality improvement. Prerequisites: HIM 225 and CIS 118.

HIM 231 - Quality Assessment..... **(3:3:LAB_HOURS)**
This course introduces the principles of quality assessment process and develops skills in collecting and analyzing data. It includes quality improvement, risk management, case management, and accreditation quality improvement standards. Prerequisites: HIM 225 and CIS 118.

HIM 250 - Professional Practicum.....**(4:1:8)**
This is the course for students seeking a degree in Health Information Management. The components of health information analysis, information management, information systems, organization, and supervision are vital focus areas of this internship/experience. Students are required to complete a clinical at a healthcare facility. Prerequisites: HIM 225 Co-requisites: HIM 230 and 231.

HIS 111 - U. S. History: Pre-Civil War .....**(3:3:0)**
This course is a survey of colonial America and United States history through 1877. The course covers political, social, cultural, and economic factors that shaped the pattern of life in the United States through the period of Reconstruction. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120

HIS 112 - U. S. History: Post-Civil War.....**(3:3:0)**
This course is a survey of United States history through 1877 to present. The course covers political, social, cultural, and economic factors that shaped the pattern of life in the United States. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120

HIS 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chair.

HIS 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

HIT 100 - Intro to Health Information.....**(3:3:1)**
Introduction to the health care field and health records with class and lab emphasis on the roles of health professionals, functions of the hospital health information department, content and analysis of health records in a variety of health care settings, storage and retrieval of health information and common registries. Prerequisites: Test score or RDG 051 or ESL 100 or NCS 052 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125

HIT 170 - Medical Coding Practicum .....**(2:0:6)**
This course is a supervised practicum performed in a health care facility which provides the student with experience in medical coding applications. Prerequisites: HIM 120 and HIM 121. Co-requisites: HIM 122

HIT 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

HIT 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

HLH 100 - Intro To Health Careers.....**(1:1:0)**
An overview of a variety of health careers that provides the student with greater understanding of the responsibilities, work environments, and opportunities in health care. Prerequisites: None

HLH 101 - Intro To Patient Care.....**(2:2:1)**
The basic techniques of working within patient care including asepsis, safety considerations, chemical hygiene, records systems, universal precautions, and other routine patient care procedcures. Prerequisite: MAT 130 and BIO 120

HLH 102 - Physical Activity for Health.....**(1:1:1)**
This introductory health course is designed to promote regular physical activity as an important component of health and wellness. Students will learn the significant role exercise plays in the prevention of disease and will participate in a variety of exercise experiences. Students will identify appropriate physical activity goals and will create individual plans to incorporate these activities into a heaalthy lifestyle. Prerequisites: Test score or ENG 005 or ESL 034 or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 005 or ESL 032 or RDG 051 or NCS 052 or ESL 100 or RDG 120

HLH 110 - First Aid, Safety & CPR .....**(3:2:2)**
The National Safety Council's principles and guidelines for safety, CPR and first aid are examined. Upon completion of the course, the student will be able to administer basic first aid and emergency care. Prerequisites: BIO 110 or BIO 120.

HLH 130 - Nurse Assistant Training .....**(6:5:5)**
Students will learn to safely perform basic nursing assistant skills under the supervision of the licensed nurse in a health care facility. Communication, observation and documentation skills are incorporated to aid the student in meeting the psychological, physical and environmental needs of the patient. Following successful completion of this course, the student will be qualified to take the Nurse Aid Competency Examination for certification. Prerequisites: (Test Score or MAT 012 or NCS 012 or MAT 015 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181) and (Test Score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test Score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120)

HLH 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

HLH 215 - Cardiovascular Monitoring ..... **(2:2:0)**
A course designed to give the student knowledge of the underlying coronary disease processes, therapeutic measures, and electrocardiographic interpretation used to treat the cardiac patient. Prerequisites: BIO 121

HLH 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

HMS 120 - Direct Support/Cmnty Services(3:3:LAB_HOURS)
The course will provide an overview of client needs and types of disabilities; the types of services provided to meet client need and an overview of legal precedence and history of services. Diversity will be addressed as it applies to client history, program development, and societal trends.

HMS 121 - Intro To Human Services ..... **(3:3:0)**
The student is introduced to the Human Services field. The course reviews client needs, services, requisite skills, and attitudes of the effective Human Services worker. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120

HMS 122 - Theories of Counseling ..... **(3:3:0)**
This course is an overview of basic counseling theories and techniques in terms of the client-worker relationship. Prerequisites: Test score or RDG 120 and HMS 121 and PSY 121 and ENG 121

HMS 123 - Dynamics/Group Communication I ..... **(3:3:0)**
Students receive an overview of the theories, principles, and techniques of organization, leadership, and participation in the group process. Emphasis is placed upon the development of therapeutic communication skills. Prerequisites: Test score or RDG 120 and HMS 121 and PSY 121 and ENG 121

HMS 124 - Comm Living Skills/Supports ..... **(3:3:1)**
Students will learn to assess the need for and provide services that address: physical, personal, and household management; community connections and networking; locating services - transportation, etc.; and self-advocacy skills. Other learning components will include researching community services and interviewing professionals and clients directly involved in the relevant issues in the field. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and HMS 120.

HMS 125 - Assessment and Communication ..... **(3:3:1)**
Students will learn to encourage sensitive communication skills; build a rapport with clients; take a person centered approach; use alternative communication technology; appropriately interpret and use assessments; and gather information to provide services tailored to the needs to the client. Additional learning components include site visits and interpreting assessments and writing a plan for practical applications. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and HMS 120.

HMS 126 - Desgn/Evaluation of Services ..... **(3:3:1)**
Students will review and analyze best practices; evaluate existing programs utilizing best practices; identify potential concerns and corresponding solutions; and design an activity program to successfully support a client to obtain maximum independence. Additional learning components include a project to design a new program or extend an existing program based on best practices. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and HMS 120.

HMS 144 - Survey of Human Development ..... **(3:3:0)**
A life-span approach to human development through examination of the physical, cognitive, psychological, and social processes and tasks associated with each stage in the life cycle. Emphasis will be placed on assessment of needs and common educational, social and psychological problems within a developmental context. Prerequisites: Test score or RDG 120 and HMS 121 and ENG 121 and PSY 121

HMS 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

HMS 211 - Marriage and the Family ..... **(3:3:0)**
The course is an overview of the family social system, history of family research, mate selection, human sexuality, and the family's reaction to change. Prerequisites: Test score or RDG 120 and ENG 121 and PSY 121 and SOC 111

HMS 221 - Ethical Problems and Issues ..... **(3:3:0)**
This course is provided to give students the tools needed to better clarify their own values as well as understand the basic moral problems and issues of the society that surrounds them. The course will encourage student contribution and confidence. Emphasis is on the development of a personal value system and the relationship of ethics to the Human Services profession. Prerequisites: Test score or RDG 120 and HMS 121 and ENG 121

HMS 223 - Social Policy/Program Planning ..... **(3:3:0)**
The course reviews the nature of social policy and its historical development. Basic trends in the social and human services are related to political and social developments in the United States. An overview is provided of the policy making and planning processes. Prerequisites: Test score or RDG 120 and HMS 121 and ENG 121 and SOC 111 or PSY 225

HMS 225 - Interviewing/Counseling Skills ..... **(3:3:1)**
An experiential course that focuses on helping skills needed in human services settings. The emphasis is on the practical acquisition of interviewing, counseling, and case management skills. Prerequisites: HMS 122

HMS 229 - Adult Development & Aging ..... **(3:3:0)**
This course reviews physiological, cognitive, emotional, and social experiences and changes across the adult lifespan. Emphasis will be placed on theoretical foundations of adult development, individual and diversity influences, and issues facing the aging adult in today's society. Prerequisites: Test score or RDG 120 and PSY 121 and ENG 121

HMS 243 - Directed Practice I ..... **(6:1:15)**
The individual applies the values, concepts, and skills gained from courses to the actual process of helping people. The student is placed in an agency or organization to learn through supervised participation in the work of the agency. Emphasis is given to individual growth in self- awareness, interpersonal communication interviewing skills, introduction to the agency and client system. Prerequisites: Test score or MAT 012 and CIS 107 and HMS 123 and HMS 122 and ENG 122.

HMS 244 - Directed Practice II.....**(6:1:15)**
The individual continues to apply the values, concepts, and skills gained from courses to the actual process of helping people. Emphasis is placed on sharpening of skills and knowledge, use of self in the helping process, group process and use of social service system and community and resources. Prerequisites: HMS 243

HMS 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

HRI 101 - Introduction to Hospitality.....**(3:3:0)**
This course provides a general overview of the hospitality industry. Emphasis is placed on the variety of operations, diversity of management, personal opportunities, and market segments. Prerequisites: (Test Scores or MAT 015 or higher) and (((Test Score or RDG 051 or higher) and (Test Scores or ENG 051 or higher)) or Test Scores or ENG 090 or concurrent or ENG 091 or concurrent or higher).

HRI 112 - Principles of Hospitality Mgt.....**(3:3:0)**
A course designed as a guide for hospitality managers and management students who are or will make management decisions on a daily basis. All aspects of management are addressed with broad discussions of all the functions of a hospitality manager. Prerequisite: Test Score or RDG 051 and Test Score or ENG 051 and Test Score or MAT 016

HRI 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

HRI 210 - Beverage Management.....**(3:3:0)**
This course introduces a variety of beverages: wine, beer, distilled beverages, and low and nonalcoholic beverages. It covers the management of beverage facilities and equipment, the purchasing functions, the effective writing of beverage lists, internal control, cost control, and alcoholic beverage service. Prerequisites: HRI 101 or CUL 121

HRI 211 - Quantity Food/Menu Planning.....**(3:3:0)**
This course is the study of basic cooking skills in an institutional setting, It includes the preparaton of nutritionally balanced menus, keeping abreast of the continuously changing technology, and applying creative techniques to new dishes. Prerequisite: HRI 101

HRI 212 - Food/Beverage Cost Control.....**(3:3:0)**
This course investigates the principles of cost controls and their application to the hospitality industry. The flow of costs for beverages, food, and labor are discussed in the context of operational efficiency. Issues relating to fraud prevention are also reviewed. Prerequisites: (Test scores or ENG 102 or higher) and (HRI 101 or CUL 121) and (Test scores or MAT 120 or higher)

HRI 213 - Food/Beverage Purchasing.....**(3:3:0)**
This course teaches the different types of organizations of purchasing departments in the hospitality industry. It outlines the responsibilities, relationships, functions, and duties of a purchasing agent. Prerequisite: HRI 101

HRI 215 - Lodging Operations Management.....**(3:3:1)**
Covers the functions and procedures used by management and administrative employees to operate a lodging facility on a daily basis. Topics covered front office operations, operational statistics and reporting, needs planning and planning and procurement, staffing requirements, as well as typical day-to-day operational tasks. Prerequisites: HRI 101 and MAT 153 and (Test score or ENG 121 or ENG 125).

HRI 216 - Property Management.....**(3:3:0)**
The goal of this course is to teach the student the basic skills of engineering, maintenance, and energy concepts in a hospitality establishment. Prerequisite: HRI 101

HRI 219 - Innkeepers' Law.....**(3:3:0)**
This course is for students who are or may become involved in hospitality industry. It alerts the students to a number of potential legal problems and pitfalls. The main concern is with the growth of federal government legislation and regulations affecting the hospitality industry. Prerequisites: HRI 101 and ENG 121

HRI 220 - Certified Hospitality Supervsr.....**(1:1:0)**
This course provides the knowledge and practical skills needed for a managerial career in hospitality. It provides information on how supervisors should meet their responsibilities to management as well as to employees, and how to carry out the full range of daily duties of the hospitality manager. Successful completion of the course leads to CHS certification. Prerequisites: HRI 101 and ENG 121

HRI 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

HRM 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

HRM 210 - Organizational Staffing.....**(3:0:0)**
This course seeks to both describe and prescribe staffing activities that can be undertaken in order to meet the major staffing challenges for an organization. It involves recruitment, interviewing applicants, administering tests, selection, decision-making and job offers. Prerequisites: MGT 212

HRM 222 - Employment Law.....**(3:3:0)**
This course focuses on the impact that government regulations have had on the Human Resources Management function and its activities. Emphasis is placed on practical implications of government regulations as they affect the HR Professional's day-to-day job. Development of regulations are traced to their roots in various sources of lawmaking, for example: constitutional amendments, common law, relevant court decisions, legislative acts, and executive orders. Prerequisite: MGT 231

HRM 224 - Training and Development.....**(3:3:0)**
This course provides a practical approach to training employees in their industry and business environment. Students acquire the knowledge and skills necessary to understand the processes of training and development. Components of training design, including needs assessment, objectives, evaluation, and presentation styles are covered. Prerequisites: MGT 231 or MGT 231 concurrent.

HRM 231 - Practicum I.....**(5:0:15)**
Each practicum in the Hotel, Restaurant, and Institutional Management program consists of 240 hours of proven work experience in a hotel, restaurant, or club. Prerequisites: None

HRM 232 - Practicum II ..... **(5:0:15)**
Each practicum in the Hotel, Restaurant, and Institutional Management program consists of 240 hours of proven work experience in a hotel, restaurant, or club. Prerequisites: None

HRM 234 - Labor Management Relations ..... **(3:3:0)**
This course provides students with a basic understanding of labor management relations. It focuses on the interaction between labor and management, collective bargaining, administration of agreements, grievance and arbitration with emphasis on analysis and discussion of cases. Prerequisites: HRM 231

HRM 289 - Approved technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

HTT 100 - Intro To Histotechnology ..... **(2:2:0)**
An introductory course providing an overview of basic information about the study of histotechnology, safety, and asepsis procedures, record keeping, and the operation of the histology laboratory. Prerequisites: BIO 120

HTT 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

HTT 201 - Histology ..... **(2:2:1)**
A course in the study of human organs and tissues for the purpose of the developing histotechnological skills. Emphasis will be placed on recognition, composition, and functions of the organs and tissues. Macroscopic and microscopic laboratory examination and evaluation of the specimens are included. Prerequisites: BIO 121 and HTT 100

HTT 202 - Histology Internship ..... **(9:1:24)**
A supervised internship which provides the student with additional practice in basic and special staining techniques and immunohistochemical and specialized procedures used in the routine practice of histotechnology. Prerequisites: HTT 201 and HTT 211 and HTT 220

HTT 203 - Histology Internship II ..... **(9:1:24)**
This course is a continuation of HTT 202. Specialized staining procedures, basic staining methods and higher level procedures required to practice histotechnology are presented. Prerequisites: HTT 202

HTT 211 - Histotechnology Procedures I ..... **(3:2:4)**
An introduction to equipment and basic procedures used in the Histology laboratory. Theories and procedures for fixation, processing, embedding, and microtomy will be followed by laboratory experience. Prerequisites: HTT 100 and MAT 153 and CHM 110.

HTT 212 - Histotechnology Procedures II ..... **(3:2:3)**
Part II of Procedures (HTT 211) - Introduction to advanced techniques and special procedures. Students will learn procedures for cytology, cytogenetics, muscle enzyme histochemistry, immunohistochemistry and molecular histology. The course will include tissue preparation, staining technology, quality control and trouble shooting, for these more advanced techniques. Prerequisite: HTT 211

HTT 220 - Histochemistry I ..... **(3:2:4)**
An introduction to the basic stains used by the histotechnician. Students will study the changes in tissue that are associated with various disease states and will learn the usefulness of staining techniques in identifying disease processes. The theory of the most commonly used stains will be covered. Prerequisites: CHM 111 and HTT 100

HTT 221 - Histochemistry II ..... **(3:2:3)**
Continuation of HTT 220 Histochemistry I with an introduction to advanced histologic technology procedures. Topics included are immunohistochemistry, cytogenetics, flow cytometry, electron microscopy, and enzyme histochemical procedures. Prerequisites: HTT 220

HTT 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

HVA 110 - Intro to HVAC ..... **(3:2:2)**
A preparatory course for engineering technology students which includes design problems and study activities to help the student to conceptualize and communicate using technical science, mathematics, and computers. Laboratory emphasis includes computer literacy and programming in the BASIC language. The student will be introduced to concepts including energy, temperature, humidity, and conduction of heat. There will be overviews of HVAC related equipment and systems. Prerequisites: Test score or MAT 015 or MAT 016 and Test score or MAT 012

HVA 130 - HVAC Fund ..... **(3:2:2)**
Objectives include calculation of building heating and cooling loads and familiarization with HVAC equipment and systems. The psychrometric chart will be used to determine properties of air/water vapor mixtures. Effects of envelope heat transfer, solar radiation, and processing of outside air will be determined. Prerequisites: Test score or MAT 075

HVA 131 - HVAC Fabrication Processes ..... **(3:2:4)**
A study of practical sheet metal work as it relates to HVAC installations. Topics include ducts, fittings, layout, seams, connectors, joints, and hangers. The operation of sheet metal fabrication equipment is learned through demonstration followed by hands-on shop projects. Welding, soldering, and brazing processes found in common HVAC installations are studied. Prerequisites: None

HVA 160 - HVAC Systems Design ..... **(5:4:2)**
Study of the engineering principles and design criteria of basic HVAC systems. Topics include human comfort elements, psychrometric charts, construction materials, building heating and cooling load calculations, HVAC system components, piping and ducts design, industrial exhaust systems. Prerequisites: Test score or MAT 075 or MAT 181 or MAT 182 or MAT 281.

HVA 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

HVA 202 - Energy Conservation ..... **(4:3:2)**
Techniques to reduce consumption of fossil fuels and electric power will be studied, including heat recovery, thermal storage, improved equipment and materials, operation and maintenance practices, energy waste elimination, and use of renewable energy sources. Economic aspects will be considered. The student will be expected to research literature for a course project. Prerequisites: HVA 225

HVA 217 - Refrigeration/Steam Fundmental ..... **(4:3:2)**
Conservation of energy, including heat, work, and internal energy is applied to HVAC systems. Ideal models such as the constant pressure process, the isentropic process, and the Carnot cycle are used. Properties of liquids, liquid-vapor mixtures, and superheated vapors are determined and used in applications including vapor cycles, pipe flow, and heat transfer. Prerequisites: HVA 130 and PHY 171

HVA 225 - Systems Design ..... **(5:4:2)**
Techniques for load calculation, equipment selection, and duct design are applied in a residential project. Air ducts and water piping are sized by equal friction methods. HVAC design requirements of industrial facilities including computer rooms, clean rooms, laboratories, and manufacturing areas will be studied. Prerequisites: HVA 130 and MET 131

HVA 237 - HVAC Controls ..... **(5:4:2)**
This course introduces HVAC Technology students to control theory, strategy, and applications for the HVAC field. Electric, pneumatic, and electronic systems and components are included. Aspects of safety, operation, and energy management are considered. Prerequisites: MAT 182

HVA 241 - HVAC Service ..... **(2:0:6)**
The course involves recognition of the symptoms of malfunction, identification of the cause of the malfunction, and specification of remedial action for various types of systems and their components. Prerequisites: HVA 217 and HVA 225 and HVA 237.

HVA 251 - Systems Design Project ..... **(3:1:6)**
HVAC design technology will be applied to a commercial or industrial project. There will be opportunities for small group interaction and development of problem solving skills. The project will be taken from inception through the design process, including written and graphic documentation. Prerequisites: HVA 217 and HVA 225 and HVA 237.

HVA 260 - Thermodynamic Applications ..... **(4:4:0)**
Study of theory and principles of thermodynamics as applied to various engineering systems, including heat transfer through various surfaces, equipment efficiency, calculation of various gas cycles, steam turbine efficiency, refrigeration cycles, cooling tower requirements, system parameters for air conditioning systems, energy conservation procedures. Prerequisites: MET 250

HVA 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

IDT G07 - Modem Classroom Management ..... **(2:2:0)**
The purpose of this course is to present effective techniques for eliciting appropriate social and academic behaviors in the traditional, blended, and online classroom. Several models for behavioral intervention in both traditional and non-traditional classrooms are examined, with special emphasis on the management of behaviors and habits that impede the learning process.

IDT G12 - Tech Enabled Assess Strategies ..... **(1:1:0)**
This course will introduce the student to the learning theories associated with technology enabled assessment strategies. The learner will focus on formal and informal assessment strategies and how assessment outcomes can be used to inform and improve instruction.

IDT G21 - Instructional Design ..... **(2:4:0)**
This course focuses on the fundamental elements of instructional design including the principles of learning theory and instructional stragegies. Learners participating in the course will study instructional systems theory, systematic approaches to instructional design, and the contemporary practice of instructional design with an emphasis on classroom and online learning environments. Prerequisite: None

IDT G22 - Foundational Technologies ..... **(2:4:0)**
This course will enable learners to understand, explore, and experiment with foundational educational technology tools and techniques. Learners will not only learn how these applications function and work, but also how they can be leveraged within the learning environment. Topics include, but are not limited to: learning management systems, asynchronous and synchronous learning tools, audio and video production and editing, as well as how these applications are properly deployed in the learning environment. Prerequisites: None

IDT G26 - Advanced Classroom Technology ..... **(2:2:0)**
This course provides an overview of free instructional and assessment tools and resources for educators. Students explore tips, lesson ideas, and strategies that can be implemented quickly and will support their ongoing work. Participants create presentations that can be used in their classrooms and explore a variety of tools for traditional and alternative assessments. Prerequisite: None

IDT G31 - Teaching with Technology ..... **(2:2:0)**
This course is designed to enable professional educators, at all levels, to design, develop, and deliver technology enabled course offerings. The course provides an in-depth study of the theoretical foundations of learning and instruction as they apply to the face to face, hybrid, and distance learning environments. Prerequisites: None

IDT G32 - Implementing Eff. Learning Com ..... **(2:2:0)**
This course covers types of learning communities and strategies for marketing learning communities within the larger College community. In addition, students create integrated assignments and prepare assessment tools and strategies to evaluate student performance and the effectiveness of the learning community itself. Prerequisite: None

IDT G36 - Educational Document Control ..... **(1:1:0)**
This course is designed to familiarize the learner with the elements of document and data control. Failing to understand how to effectively save, archive, organize, and deploy educational documents costs the average instructor 75 hours each school year. Through a combination of lectures, discussions, and practical exercises, the learners will appreciate the ease in which document and data control can be implemented.

IDT G39 - Virtual Learning Env in Ed ..... **(1:1:0)**
This course examines the impact of virtual learning environments on modem education. Sudents will learn how to navigate and access virtual learning communities, as well as how to leverage these environments in teaching.

IDT G42 - Motivational Teaching ..... **(1:1:0)**
This course focuses on the application of motivational instruction. Participants study learning as a change process and design instructional practices using the foundational theory and methods of motivational interviewing. Prerequisites: None.

IDT G43 - Crtve Cmns, Fair Use, & Cpyrt ..... **(1:1:0)**
This course will introduce the learner to the concepts and legislation governing copyright, fair use, and creative commons. The learner

will explore these rules and laws, as well as examine these statutes that effect their lessons and classes. Other key issues such as public domain, file sharing, open access, creative commons and the redistribution of multimedia will also be explored.

IDT G47 - Psych of the Online Learner ..... **(2:2:0)**
In this course, the learner will explore the fundamental concept and principles impacting technology-enabled learning and instruction. The learner will examine basic theories of education, specifically the behavioral and cognitive theories, as well as how those are altered in a technology enabled learning environment. The learner will also explore more recent concepts such as Brain-based learning and Multiple Intelligences. Finally, the course will review theoretical perspectives associated with technology and learning; investigate the role of cognition in learned behavior; evaluate models of learning; investigate technologies influences on learning; and apply learning principles to improve instruction.

IDT G58 - Fundamentals of Acad Advmnt ..... **(2:2:0)**
This course examines the fundamentals of academic advising as essential components of student engagement, retention, and success. Topics include developmental advising; research on academic advising; technology and delivery systems; advising skills, including diverse populations; and evaluation, assessment, and reward systems for advisors and advising programs.

IDT G59 - Instructional Strategies ..... **(2:2:0)**
This course focuses on the fundamental principles of instructional strategies, lesson planning, and formative assessment. Learners study how to design lessons and units that engage students and maximize learning in face-to-face and online evironments. Prerequisites: None

IDT G63 - ePortfolio Design ..... **(1:1:0)**
This course will provide the learner with an overview of electronic portfolio creation, design, development and delivery. The learner will learn to select, categorize and document their achievements and accomplishments for review and assessment related to academic placement and/or employment. The learner will evaluate knowledge and skills acquired from previous experience or training on the job, in the community, in military service, through travel, or through personal development. The learner will demonstrate comprehension and appreciation of life/work experiences and how those relate to prior or on-going experiences and they will demonstrate the ability and skill to develop a comprehensive electronic portfolio.

IDT G82 - e-books and Digital Readers ..... **(1:1:0)**
This course explores the dramatic and controversial transformation from paper-based text to digital e-books. In this course, the learner will research and explore what role e-books are likely to play in the near future. It also explores a host of related shifts and developments in the way educational books are produced, assessed, distributed, retailed, and received.

IDT G86 - Synchronous Tech in Teaching ..... **(1:1:0)**
Synchronous communication has the potential to increase individual participation and group collaboration that could not be easily achieved by an synchronous mode of communication. In this course, the learner will be presented with an overview of the underlying pedagogical assumptions behind asynchronous and synchronous teaching and learning. The learner will experiment with the multi-modal synchronous classroom, as well as learn about the tools and skill sets needed to utilize this medium effectively.

IDT G88 - Leveraging Soc'l Media for Lrn ..... **(2:2:0)**
This course is intended to introduce professional educators, at all levels, to the benefits of social learning. The course provides an in-depth analysis of the theoretical foundations of social learning and covers social media tools and platforms used today.

IDT G98 - Conduct Dist Ed/Eval Peer Revw ..... **(1:1:0)**
This course is based on the Quality Matters (QM) peer review distance education course assessment model. QM is a faculty-centered, peer review process that is designed to certify the quality of online and blended courses. The peer review process is designed to promote and improve the quality of online education and student learning. Prerequisites: None

IDT G99 - Special Topic in Ed Technology ..... **(1:1:0)**
Special Topic courses are intended to cover advanced material outside of or beyond the scope of current course offerings. The student may take this course a maximum of twice, with an approved change of topic for each instance.

IET 150 - Computer Applications ..... **(3:2:2)**
This course is designed to teach the novice computer user how to do word processing, spreadsheets, and data base operations all within the Windows environment. The Word processor to be used is Word 97. The spreadsheet and data base to be used is Microsoft Excel 97. Prerequisite: Test Score or MAT 012

IET 209 - Survey in Prod Plan & Cntrl ..... **(3:2:2)**
This advanced course covers product development and production manufacturing. Determination of economical manufacturing methods, selection of materials and machinery, estimation of materials and labor costs, production planning and scheduling, and the layout of a production line are covered. Prerequisites: (((Test Scores or RDG 120) and (Test Scores or ENG 121 or higher)) or Test Scores or ENG 102 or higher) and EDT 252 and EDD 273

IMT 110 - Intro to Industrial Technology ..... **(3:2:2)**
This course is designed as a preparatory to familiarize the student with the practices and principles of working in an industrial facility as a part of an industrial technical team working on processes and utilizing informatiom systems. Core topics include interpersonal communication, teamwork, basic statistical concepts, manufacturing information systems, fundamentals of manufacturing processes, and probability. Laboratory work in the topic areas will be included to illustrate concepts covered. Prerequisite: Test Score or RDG 051 and Test Score or ENG 005 and Test Score or MAT 005

IMT 120 - Industrial Management Systems ..... **(3:3:0)**
An overview of industrial organizations and managementt principles, cost control methods applied to industry, maintenance organizations, and inventory control. Total Quality Management (TQM) principles also will be covered. Prerequisite: Test Score or ENG 051 and Test Score or RDG 051

IMT 121 - Machines & Mechanical Devices ..... **(4:3:2)**
A course in the basic operating principles of machines and mechanical devices. The uses of the devices and machines employed in manufacturing, process control and other areas are introduced. Maintenance issues with respect to machines and devices are covered. The accurate alignment of drive components is discussed and proper alignment principles are presented. Prerequisites: IMT 110

IMT 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

IMT 211 - Mechanical Installation & Main ..... **(4:3:4)**
This course is directed toward the principles applied to the installation of mechanical devices through a review of the organizational concept. It stresses the importance of the maintenance function in the total operation of a facility. Special emphasis will be placed on maintenance job planning and scheduling, preventive maintenance, maintenance material control, and maintenance training. The importance of proper installation techniques will be included. Prerequisites: IMT 121

IMT 222 - Safety Health and Env. Regs. ..... **(3:3:0)**
The safety, health and environmental regulations that apply to industrial processes and industries will be reviewed. Develop a working knowledge of the procedures to follow when encountering regulations such as EPA, NEC, BOCA, etc. will be covered. Prerequisites: IMT 110

IMT 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

IMT 290 - Industrial Maintenance Intshp. ..... **(4:1:9)**
Applied experience through a supervised work situation, such as a campus repair shop, computer business, or industrial facility. Prerequisites: IMT 211 and (MET 252 or ELM 252).

INT 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

INT 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

ISY 111 - Ethics & the Information Age ..... **(2:2:0)**
This course discusses ethics and moral philosophy appropriate to computer information and technology, including a framework for ethically-grounded decision making in the information age. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120).

ISY 143 - Intro to Information Security ..... **(3:3:0)**
This course introduces students to information security terminology, the legal environment, risk management, security technologies, and security planning and implementation. Students prepare for further study in computer forensics and cyber network protection. Prerequisites: (Test scores or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test scores or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120)

ISY 150 - Introductory Scripting ..... **(4:3:2)**
This course examines various types of scripting languages and their appropriate use for intergration of applications and systems. Topics include the use of scripting languages to facilitate the management, integration, and security of the systems that support an organization. Students experience a hands-on application and problem-solving introduction to script programming. Prerequisite: CIS 120

ISY 201 - Advanced Operating Systems ..... **(3:2:2)**
This course covers advanced topics in computer operating systems, their design implementation, with a special emphasis on distributed computing. Important topics include portable operation systems, mobile operation systems, virtual memory management, file systems, security, networking, fault tolerance, parallel computing, message passing, and virtualization. Prerequisites: CIS 146 or CIS 192

ISY 243 - Information & Network Security ..... **(4:3:2)**
This course introduces computer information and networking security principles and relates them to other areas of information technology. Topics include how to harden a network, protect communications, and use cryptography and Public Key Infrastructure (PKI) to thwart attackers. This course prepares students to take an optional network security certification examination. Prerequisite: ISY 143

ISY 250 - Network Def & Countermeasures ..... **(3:2:2)**
This course examines the different aspects of penetration testing and techniques needed to assess network and application security. Students learn multiple approaches used in ethical hacking and develop incident reports to recommend ways to better secure the environment. Prerequisite: CNE 192 or CIS 192

ISY 251 - Hardening the Infrastructure ..... **(3:2:2)**
Students understand the layers of hardware and software control measures that are required to control the flow of traffic into and out of the network perimeter to provide a perimeter defense. This course is designed to offer the student a solid foundation in advanced network security fundamentals to include TCP/IP addressing, routing, packet filtering, installing proxy servers, firewalls, and virtual private networks (VPNs). Prerequisites: CIS 146 or CIS 192 or CIS 196 or CIS 197.

ISY 270 - Computer Forensics ..... **(4:3:2)**
This course introduces digital investigations, preparing students to acquire and analyze digital evidence. It covers file structures in different computer operating systems, data recovery techniques, data hiding, data preservation techniques, chain-of-evidence procedures and expert witness testimony. Prerequisite: CNE 192

ISY 280 - Advanced Security Topics ..... **(3:2:3)**
This course covers advanced topics in information and network security. Students use knowledge, skills, and abilities to perform tasks related to the field of information security. This course is based on a sequence of hands-on laboratory exercises for teams of students and emphasizes defensive tools and techniques. Prerequisites: ISY 250 and ISY 251

LAS 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

LAS 271 - Intro to Lasers ..... **(4:3:2)**
This laboratory-based laser course will include elements and operation of lasers and optical power meters, laser safety, properties of laser light, emission and absorption, lasing action, optical cavities, temporal and spatial characteristics. He-Ne case study and laser classification, and characteristics. Prerequisites: MAT 182 and PHY 172.

LAS 272 - Geometrical Optics & Lasers ..... **(4:3:2)**
This laboratory-based laser course includes reflection and refraction (at plane and curved surfaces), thin and thick lenses, stops and apertures, matrix optics, lasers and resonators, laser systems, and applications to fiber optics. Prerequisite: (MAT 182 or MAT 185 or MAT 281) and (PHY 205 or PHY 281)

LAS 273 - Wave Optics & Lasers ..... **(4:3:2)**
This laboratory-based laser course will include light sources and their characteristics, radiometry and photometry, wave nature of light, reflection and refraction, propagation, interference, diffraction, polarization, holography, and applications to fiber optics. Prerequisites: MAT 182 and PHY 172.

LAS 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

LNG 199 - Foreign Language Elective ..... **(4:4:LAB_HOURS)**
This course introduces students to foreign language through communicative interaction. Students will develop comprehension (listening and reading) skills and expressive (speaking and writing) skills. They will acquire basic foreign language grammar and vocabulary needed for daily communication. Students will increase their awareness of foreign cultures.

MAT 005 - Basic Math..... **(4:4:0)**
A study of arithmetic including whole numbers, fractions, decimals, ratios, proportions, and percents. Prerequisites: None

MAT 012 - Review of Math Fundamentals..... **(4:4:0)**
A review of arithmetic, math in daily living, basic geometry, English/metric conversions, simple algebraic expressions, and simple algebraic equations. Prerequisites: Test score or MAT 005 or NCS 005 or NCS 012 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 181.

MAT 015 - Elementary Algebra..... **(4:4:0)**
Topics in this elementary algebra course include operations on real numbers, simplification and evaluation of algebraic expressions, solving equations and inequalities, solving word problems, exponents, polynomials, factoring, graphing, and simultaneous equations. Prerequisites: Test score or MAT 012 or NCS 012 or MAT 090 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181.

MAT 110 - Math Course Success Strategies..... **(1:1:LAB_HOURS)**
This class is designed to improve learning and comprehension in mathematics courses. Students will develop strategies to improve listening, note taking skills, study techniques, test anxiety and test-taking skills.

MAT 119 - Applied Clinical Mathematics..... **(3:3:0)**
This course presents an arithmetic review of practical mathematics in various clinical settings. Topics include ratios and proportions, percentages, basic algebraic principles, introduction to statistical concepts and dosage calculations. Prerequisite: Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 120 or MAT 130 or MAT 140 or MAT 150 or MAT 153 or MAT 181 or MAT 185.

MAT 120 - Math for Behavioral Sciences..... **(3:3:0)**
This course reviews and applies set theory, ratios and proportions, percentages, consumer mathematics, basic algebraic principles, and introductory statistical concepts. Pre-requisites: Test scores or MAT 012 or NCS 012 or MAT 015 or MAT 119 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181.

MAT 125 - Math for the Trades..... **(4:4:0)**
This is a course designed to provide students with math skills that are essential to a wide variety of industrial and technical trade areas. Topics include on-the-job applications of whole numbers, fractions, decimals, percents, measurement, and operations with signed numbers. Prerequisite: Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 150 or MAT 153 or MAT 181 or MAT 185.

MAT 129 - Math for Health Sciences ..... **(3:3:0)**
Topics in this course include a review of arithmetic operations on real numbers, dimensional analysis, simplification and evaluation of algebraic expressions, solving equations and inequalities, solving application problems, exponents, and graphing. Prerequisites: Test scores or MAT 012 or NCS 012 or MAT 015 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181

MAT 130 - Algebra for Allied Health..... **(4:4:0)**
This course presents linear equations, quadratics, graphing, properties of exponents and logarithms, basic statistics, metrics, and right triangle trigonometric functions. Prerequisite: Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 140 or MAT 150 or MAT 153 or MAT 181 or MAT 185.

MAT 135 - Biomedical Statistics ..... **(3:3:0)**
This course stresses the use of biomedical data in studying methods of descriptive and inferential statistics, properties of the normal distribution, point and interval estimators, hypothesis testing of the population mean, and correlation and regression. Prerequisites: Test score or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 140 or MAT 150 or MAT 153 or MAT 181 or MAT 185.

MAT 140 - Essentials of College Algebra . **(4:4:LAB_HOURS)**
A course for students who have successfully completed a first course in elementary algebra. Topics include linear equations and inequalities, absolute value inequalities, functions, linear functions, polynomials, factoring, rational and radical expressions, rational and negative exponents, complex numbers, and solutions to equations and application problems involving linear, rational, radical and quadratic equations. Prerequisite: MAT 015 or (Test Score or MAT 075 or MAT 153 or MAT 181 or MAT 185 or NCW 045).

MAT 141 - College Algebra ..... **(3:3:0)**
This course stresses essential skills and concepts needed for mastering problem-solving techniques. Topics include integers, polynomials, graphing linear equations and inequalities, systems of equations, matrix algebra, exponents, radicals, and complex numbers. Prerequisites: Test score or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 135 or MAT 140 or MAT 150 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 251 or MAT 261 or MAT 281.

MAT 142 - Applied Geometry/Trigonometry ..... **(3:3:0)**
This course stresses geometric and trigonometric skills. Topics include triangles, circles, polygons, basic trigonometric functions and their graphs, solutions of triangles, and complex numbers. Prerequisites: MAT 141.

MAT 143 - College Geometry ..... **(3:3:0)**
This course is designed to cover the elementary concepts of plane Euclidean geometry and to help make the transition from algebra to precalculus. Special emphasis will be given to logical systems, proofs, angle relationships, parallel lines, similarity and circle relationships. Prerequisites: Test score or MAT 140 or MAT 153 or MAT 181 or MAT 185

MAT 150 - Business Mathematics ..... **(3:3:0)**
This foundation course in business mathematics includes a study of percentage problems, simple and compound interest, bank reconciliations, installment buying, present value, payroll, taxes, trade and cash discounts, markup and markdown, depreciation, tables and graphs, and amortization. Prerequisite: Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 153 or MAT 181 or MAT 185.

MAT 153 - College Math and Statistics ..... **(4:4:0)**
A study of exponents, roots, radicals, quadratic equations, relations and functions, graphing, polynomial functions, systems of equations, inequalities, exponential and logarithmic functions, elementary statistics including organizing and presenting data, measures of central tendency and measures of variation. Prerequisites: Test score or MAT 015 or MAT 016 or NCW 045 or MAT 075 or MAT 090 or MAT 135 or MAT 140 or MAT 141 or MAT 181 or MAT 182 or MAT 185 or MAT 201 or MAT 251 or MAT 261 or MAT 281.

MAT 154 - Honors College Math/Statistics ..... **(4:4:0)**
A study of exponents, roots, radicals, quadratic equations, relations and functions, graphing, polynomial functions, systems of equations, inequalities, exponential and logarithmic functions, elementary statistics including organizing and presenting data, measures of central tendency and measures of variation. Prerequisites: Test score or MAT 075 or MAT 090 or MAT 140 or MAT 153 or MAT 181 or MAT 185.

MAT 155 - Mathematics of Finance ..... **(3:3:0)**
This course includes math of buying and selling, personal finance, depreciation, inventory control, accounting mathematics, financial statements and ratio analysis, annuities and sinking funds, insurance, securities, business statistics, and applied problems. Prerequisites: Test score or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 135 or MAT 140 or MAT 150 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 251 or MAT 261 or MAT 281.

MAT 181 - Algebra and Trigonometry I ..... **(4:4:0)**
A study of elementary functions including linear functions, quadratic functions, polynomial functions, exponential and logarithmic functions, and right triangle trigonometry. Prerequisites: Test score or MAT 075 or MAT 090 or MAT 140 or MAT 153 or MAT 185 or MAT 201.

MAT 182 - Algebra and Trigonometry II ..... **(4:4:0)**
A study of circular and trigonometric functions, vector applications, complex numbers, simple curve sketching of algebraic and trigonometric functions, nonlinear systems, matrix methods, and properties of conic sections. Prerequisites: MAT 181.

MAT 185 - Precalculus ..... **(4:4:0)**
This course is designed to integrate intermediate algebra, analytic geometry, and trigonometry with other college algebra topics through a functional approach as a preparation for calculus. Prerequisites: Test score or MAT 075 or MAT 090 or MAT 140 or MAT 153 or MAT 181 or MAT 182.

MAT 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

MAT 201 - Mathematics for Teachers I ..... **(4:4:0)**
This course is designed to provide prospective teachers with the knowledge and skills needed to communicate mathematical concepts. Topics include techniques of problem solving, set theory, number theory, the real number system, elementary algebra, and an introduction to geometry. Prerequisites: Test score or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 141 or MAT 150 or MAT 153 or MAT 181 and Test score or MAT 015 or MAT 016 or NCW 045 or MAT 075 or MAT 141 or MAT 153 or MAT 181 or MAT 182 or MAT 251 or MAT 261 or MAT 281

MAT 202 - Mathematics for Teachers II ..... **(4:4:0)**
This course is a continuation of MAT 201. Topics include areas and volumes of geometric figures, geometric constructions, measurement, introductory probability, and statistics. Prerequisites: MAT 201.

MAT 203 - Math for Teachers III ..... **(4:4:0)**
This course is a continuation of MAT 201 and MAT 202 and is designed to enable preservice teachers to better teach mathematical concepts. Topics include polynomical, quadratic equations, systems of linear equations, the rectangular coordinate system, functions, graphs of linear and quadratic functions, the use of functions as models, linear inequalities, consumer mathematics, and an introduction to calculus. Prerequisites: MAT 201 and MAT 202.

MAT 210 - Problem Solving Strategies ..... **(1:1:1)**
The course is a study of the various problem solving strategies that are used in solving mathematical problems. There will be an emphasis on the use of these strategies with the content of a traditional secondary mathematics curriculum. Prerequisite: MAT 281 or MAT 282 or MAT 283 or MAT 288 or MAT 291.

MAT 251 - Finite Math ..... **(3:3:1)**
A study of selected algebraic topics including mathematics of finance, systems of linear equations and matrix algebra, linear programming, properties of probability and probability distributions. Markov chains and techniques of applied problem solving. Prerequisites: Test score or MAT 075 or MAT 090 or MAT 140 or MAT 153 or MAT 185 or MAT 261 or MAT 281.

MAT 253 - Discrete Math ..... **(3:3:0)**
A study of discrete models, sets, functions, logic, mathematical induction, algorithms, recursions, relations, graphs, and trees and matrices. Prerequisites: MAT 153 or MAT 181.

MAT 255 - Business Statistics I ..... **(3:3:1)**
A study of basic concepts of data organization, measures of central tendency, variability, probability and probability distributions, sampling and sampling distributions, estimation dealing with population means and proportions of large and small samples, and hypothesis testing. Course will include techniques of applied problem solving involving computers. Prerequisites: MAT 251 or MAT 153 or MAT 181.

MAT 256 - Business Statistics II ..... **(3:3:1)**
A study of hypothesis testing of means and proportions, Chi-Square test and analysis of variance, regression and correlation analysis, time series analysis, index numbers, decision theory and non-parametric statistical testing, and techniques of applied problem solving involving computers. Prerequisites: MAT 255.

MAT 261 - Business Calculus I ..... **(4:4:0)**
Content includes solving mathematical models of real world phenomena including functions, graphs, limits, continuity, and the use of differentiation and integration to solve problems involving business management and computer science applications. Prerequisites: Test score or MAT 140 or higher

MAT 262 - Business Calculus II ..... **(4:4:0)**
A study of integral calculus of algebraic, exponential, and logarithmic functions. Topics include techniques of integration, multivariate calculus, and applications from the business management and computer science fields. Prerequisites: MAT 261.

MAT 263 - Principles of Discrete Math ..... **(4:4:1)**
This course is a study of sets, logic, induction, the integers, functions, sequences, counting, and an introduction to graph theory. Proofs will be emphasized throughout the course. Prerequisites: MAT 182 or MAT 185 or MAT 281

MAT 271 - Probability and Statistics ..... **(4:4:0)**
A study of descriptive statistics and sample methods, elementary probability, discrete and continuous probability distributions, linear regression and correlation. Emphasis is on technical applications. Prerequisites: MAT 181

MAT 272 - Technical Statistics ..... **(3:3:1)**
A study of methods of inferential statistics as applied to technical problem solving. Topics include use of confidence intervals, determination of sample size, hypothesis testing of means, variances, independence, and single factor analysis of variance. Prerequisites: MAT 271.

MAT 275 - Fund of Stats Quality Control ..... **(3:3:0)**
A study of the practical aspects of quality control, including elementary statistical concepts, organization of data, control charts for variables and attributes, process capability and acceptance plans for variables and attributes. Prerequisites: Test score or MAT 012 and Test score or MAT 015 or MAT 016 or MAT 141

MAT 276 - Probability/Stats for Engr Std ..... **(4:4:0)**
Frequency and probability distributions, measures of central tendency and dispersion, regression and correlation analysis, quality control charts, and various statistical tests. Prerequisites: (MAT 181 and MAT 182) or MAT 185.

MAT 279 - Problem Solving Strategies ..... **(4:4:LAB_HOURS)**
This course is a study of the various problem solving strategies that are used in solving mathematical problems. There will be an emphasis on the use of these strategies within the context of a traditional secondary mathematics curriculum. Activities include group work, application of educational technology, oral and written presentations, and a compilation of a portfolio of problem solving strategy problems. Prerequisites: MAT 263 or MAT 281 or MAT 282 or MAT 283 or MAT 285 or MAT 288 or MAT 291

MAT 281 - Calculus I ..... **(4:4:1)**
A study of functions, limits, and continuity, differential calculus of algebraic and trigonometric functions with applications, and an introduction to the development of the definite integral. Prerequisites: MAT 182 or MAT 185.

MAT 282 - Calculus II ..... **(4:4:1)**
Integral calculus of algebraic, trigonometric, exponential, and logarithmic functions with applications. Topics include methods and application of integrations, infinite series, parametric equations, and polar coordinates. Prerequisites: MAT 281

MAT 283 - Calculus III ..... **(4:4:1)**
A study of partial derivatives, multiple integrals, line integrals, and vectors. Prerequisites: MAT 282

MAT 285 - Introduction to Proof ..... **(4:4:1)**
This course provides a transition from computational mathematics to abstract, proof based mathematics. The primary focus of the course will be the development of skills to read, understand, and produce proofs of mathematics statements. Topics which will be addressed include set theory, functions, relations, cardinality, the order properties of real numbers, least upper bound, greatest lower bound, the completeness axiom, and limits. Prerequisites: MAT 263 and MAT 281

MAT 288 - Linear Algebra ..... **(4:4:1)**
The study of linear equations, determinants, vector spaces, linear transformations, eigenvalues and eigenvectors. Prerequisites: MAT 282

MAT 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

MAT 291 - Ordinary Differential Equation ..... **(4:4:1)**
The study of solutions of ordinary differential equations of first and second order using qualitative, numeric and analytic approaches, Mathematical modeling of real life phenomena will be studied. Prerequisites: MAT 282

MAT 292 - Engineering Math I ..... **(4:4:1)**
This course has students apply fundamental mathematical procedures and processes to solve engineering problems. Topics consist of solutions of linear algebraic equations, Gauss elimination, vector spaces, subspaces, linear dependence, linear ordinary differential equations of 2nd order and higher, initial value and boundary value problems, eigenvalues, coupled linear ordinary differential equations, and nonlinear differential equations. This course includes problems and exercises drawn from the areas of circuit theory and mechanical oscillators. Prerequisite: MAT 283 or concurrent

MEA 100 - Intro to Medical Assisting ..... **(3:3:0)**
This course provides an overview of the background, concepts, and ethics of practice in medical assisting. The role of the medical assistant and the various sites available for employment are examined. Prerequisites: (Test Score or ENG 121 or ENG 125) and (Test Score or ESL 100 or RDG 120)

MEA 120 - Medical Office Procedures I ..... **(4:3:2)**
This course introduces the administrative (medical office) duties of a medical assistant including handling the telephone, managing accounts payable and receivable, managing a medical office, medical coding and obtaining third party reimbursement. Prerequisite: RDG 120 and ENG 121 and OAT 121 and BIO 100.

MEA 121 - Basic EHR ..... **(1:1:1)**
The course provides the student with a basic understanding of electronic health record management and utilization. Emphasis is on the creation, use, and maintenance of electronic health records. It includes an introduction to the terminology and technology associated with the operational use of these records. It will provide the student with the necessary skills to perform these tasks in a medical office setting. Prerequisites: BIO 100 and (Test score or ENG 121 or ENG 125) and OAT 121 and (Test score or RDG 120). Co-requisite: MEA 120

MEA 125 - Medical Office Procedures II ..... **(4:3:2)**
This course introduces the students to skills necessary for working in a modern computerized medical office. They will use the computer to schedule and monitor appointments and will get more experience with the billing process. Prerequisite: MEA 120 Co-requisite: MEA 151

MEA 150 - Medical Lab Procedures I.....**(4:3:3)**
This course is the first of two courses covering some of the basic skills and theory of the medical assistant profession. Lab safety, cardiopulmonary resuscitation (CPR), electro- cardiograms (EKG), first aid, monitoring vital signs and patient examination techniques are covered. Prerequisites: MAT 155 and BIO 100 and BIO 121 and (BIO 110 or BIO 120). Co-requisite: MEA 120

MEA 151 - Medical Lab Procedures II.....**(4:3:3)**
This course will cover basic laboratory skills of the profession. Universal precautions will be integrated into testing in hematology, chemistry, urinalysis, microbiology, and serology. Competency in phlebotomy is required. Prerequisite: Test Score or MAT 012 and MEA 150 and RDG 120 and BIO 100 and BIO 110

MEA 170 - Pharmacology for Medical Asst.....**(4:4:1)**
This course is an introduction to chemical characteristics, actions, and uses of common prescription and over-the-counter drugs. Modes of contraindications are covered for each drug discussed. Prerequisites: MEA 120 and MEA 150 Co-requisites: MEA 125 and MEA 151

MEA 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

MEA 250 - Medical Transcription.....**(2:2:0)**
Transcription of medical reports related to patient care, content and format of medical reports, and the effective use of medical references are covered in the course. Prerequisites: OFS 121

MEA 255 - Comprehensive Med Transcript.....**(3:2:2)**
Transcription of medical reports/correspondence related to patient care, content and format of medical documents using current word processing software, and the effective use of medical references are covered in the course. Prerequisites: OAT 121 and BIO 100 and ENG 121

MEA 270 - Medical Assistant Seminar.....**(3:3:0)**
This course examines specialty areas of employment for medical assistants and reinforces roles, responsibilities and practice implications. Review for the Certified Medical Assistant (CMA) exam offered by the American Association of Medical Assistants (AAMA) exam is included. Prerequisites: MEA 125 and MEA 151 Co-requisites: MEA 290

MEA 280 - Med Transcription Internship.....**(5:0:15)**
A supervised internship is performed in a health care facility which provides the student with experience in the transcription of a wide variety of medical reports. Emphasis is placed on development of competent skills, confidentiality of the health records, as well as professional conduct. Prerequisites: MEA 255

MEA 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

MEA 290 - Medical Assistant Internship.....**(4:0:12)**
Students acquire applied experience in an appropriate work situation such as a physician's office or clinic. Prereqisite: MEA 125 and MEA 151 and MEA 170 Co-requisite: MEA 270

MET 115 - Intro Mechanical Engr Tech.....**(3:2:2)**
A preparatory course utilizing design problems and study activities that are presented to help the student to conceptualize and communicate using engineering graphics, mathematics, and technical science. Special emphasis is placed on computer literacy by programming in BASIC language and using computer-aided design technology. Prerequisites: None.

MET 123 - Modern MFG Techniques.....**(3:2:4)**
A study of modern manufacturing techniques including the care and use of hand tools, precision measuring tools, the selection of materials, proper use of machine tools that include: the lathe, drill press, milling machines, computerized numerical control and arc welding processes. Pre-requisites: (Test Score or MAT 012 or NCS 012 or MAT 015 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181) and (Test Score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120).

MET 125 - Adv Manufacturing Techniques.....**(3:2:4)**
This course covers laboratory and lecture activities that include advanced welding, metal finishing methods, computer integrated manufacturing, abrasive machining methods, and other specialized machining processes. Safe working habits are stressed. Additional manufacturing material topics include discussion of ferrous and non-ferrous materials, composites, adhesives, plastics, heat treatment of steels, and advanced geometric dimensioning and tolerancing. Prerequisites: MET 123

MET 132 - Statics.....**(3:3:1)**
This course is an analytical study of the effects of forces acting on a body at rest, including the study of centroids, area moment of inertia, trusses, and frames. PREREQUISITES: MAT 181 and (PHY 205 concurrent or PHY 281 concurrent)

MET 140 - Vacuum Systems.....**(4:3:2)**
Vacuum Systems covers the theory and practice of vacuum as used in semiconductor manufacturing. This course includes vacuum principles, calculations related to vacuum practices, vacuum pumps, gauges and components, and leak detection. The laboratory portion of the course includes activities to develop skills in the operation of basic vacuum systems and vacuum components. Prerequisites: MAT 181 and CHM 100

MET 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

MET 234 - Statics/Strength of Materials.....**(4:3:2)**
The analytical study of forces, stresses, and strains acting in systems at rest, including concurrent and non-concurrent forces, centroids, moments of inertia, trusses, frames, and shear/moment diagrams; and tensile, compressive, direct and torsinal shear stresses, thin-walled pressure vessels, design of beams and columns under various loading conditions. Prerequisites: PHY 171

MET 235 - Computer Nmrcl Cntrl Machining.....**(4:3:2)**
CNC Machining is intended for the first-time user of CNC equipment. Machinists, machine operators, supervisors, engineers, and engineering students with some machining knowledge will benefit from this basic CNC course. The history, applications programming, and operations will be explored in the course of study. Prerequisites: MAT 120 and MAT 123

MET 237 - Adv Mechnical CAD with 3D.....**(3:2:3)**
A second level mechanical CAD course using Microstation software. Topics covered will include advanced 2D CAD commands, isometric

drawing, and drafting in three dimension including wire frame and solid modeling techniques. Prerequisites: MET 131 and MAT 181

MET 241 - Fluid Mechanics ..... **(4:3:2)**
This course covers physical properties of fluids, pressure and static forces, laminar and turbulent incompressible flow, conservation of energy and mass, design of fluid piping systems, energy losses, pump characteristics and selection and heat transfer. Pre-requisites: MET 132 and PHY 205

MET 242 - Strength of Materials ..... **(3:2:2)**
Analysis of axial, shearing and torsional stresses and strains in machine and structural elements such as beams, columns and shafts under static, impact and dynamic loads. Also includes a discussion of thin-walled cylinders, joints, couplings, shear and bending moment diagrams, and the design of beams. Prerequisites: MET 132

MET 243 - Dynamics ..... **(3:3:0)**
This course includes the motion of particles and rigid bodies, plane motion and Coriolis acceleration can help to determine the forces and torques required to change motion through inertia, work-energy and impulse-momentum approaches. Elastic and inelastic impact, power and vibrations are also discussed. Pre-requisites: MET 132 and PHY 205.

MET 245 - Machine Design ..... **(3:3:0)**
This course covers design principles and calculations appropriate to various machine elements including beams, bearings, bushings, shafts, power components, gears, cams, belts and fly-wheels. Pre-requisites: MET 242 and MET 243 and ELC 248 and (MET 252 or MET 252 concurrent) and (MET 264 or MET 264 concurrent)

MET 250 - Thermodynamics ..... **(4:4:0)**
Study of the theory and principles of thermodynamics including energy, work, heat, power; physical properties of materials, enthalpy, isentropic processes and the Carnot Cycle, phase diagram analysis, heat capacity, heats of fusion, vaporization, and combustion; air/water mixtures, psychrometric chart. Prerequisites: PHY 172

MET 252 - Fluid Power ..... **(3:2:2)**
A study of hydraulic and pneumatic systems for the transfer and control of power. Introduction to the electrical, pneumatic and hydraulic control of these power systems is included. Specific topics include pumps, actuators, conductors, system theory, system design, servo mechanisms, and fluid logic. The laboratory component simulates the set-up and trouble shooting of hydraulic and pneumatic systems with various types of controls. Prerequisites: PHY 111 or PHY 171

MET 264 - Material Science ..... **(4:3:2)**
A study of the physical, chemical, mechanical properties of metals, ceramics, plastics, and other engineering materials. Specific topics include ferrous metals, non-ferrous metals, heat treatment, common polymers, microstrutural examination, composite systems and corrosion. The laboratory component, of the course instructs the student in a variety of standard methods for determining the properties of common materials. Prerequisites: MAT 182

MET 271 - Engineering Project ..... **(3:1:6)**
This course covers small group design in various fields of engineering technology such as machine design, fluid mechanics, pneumatics, hydraulics, electro-mechanics and structures. Projects will be taken from inception through a complete design process, including cost analysis and final design report. Pre-requisites: MET 125, MET 241, MET 242, ELC 248 Co-requisites: MET 245

MET 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

MGT 148 - Culinary Supervisory Develpmnt ..... **(3:3:0)**
This course explores human resource management in the food service industry. Topics include legal issues, training, interviewing, and employee-employer relations. Prerequisites: (Test score or ENG 090 or ENG 091 or higher) and (Test score or MAT 012 or higher).

MGT 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chair.

MGT 212 - Principles of Management ..... **(3:3:0)**
The course is an introduction to the management field presenting a systemized body of knowledge through the functions of planning, organizing, staffing, motivating, controlling and utilizing strategies to deal with internal and external environment forces. Prerequisites: BUS 101 and (((Test score or RDG 120) and (Test Score or ENG 121)) or Test Score or ENG 102 or concurrent or ENG 122).

MGT 213 - Problems in Management ..... **(3:3:0)**
This course examines the application of management concepts to cases simulating the social and technical aspects of utilizing resources to accomplish goals. Prerequisites: MGT 212

MGT 214 - Supervisory Management ..... **(3:3:0)**
The course examines the primary management concerns of the first-level supervisor from understanding people, their problems, and how to motivate them. Specific areas covered are time management, interviewing, discipline and techniques of training. Prerequisites: BUS 101 and ENG 121

MGT 215 - Office Management ..... **(3:3:0)**
An introduction to principles of management as they relate to the office environment and focus on the role of the office manager. Prerequisites: BUS 101

MGT 218 - Small Business Management ..... **(3:3:0)**
This course presents practical approaches to managing in a small business environment including: selecting a type of business, obtaining and maintaining human resources, planning and organizing daily operations, developing operational requirements and locating sources, basic accounting and financial control, marketing considerations, business location and layout, and employee leadership. Prerequisites: Test score or ENG 121 or ENG 125 and MGT 212

MGT 231 - Human Resource Management ..... **(3:3:0)**
The management of human resources focusing on selection, training, motivation, remuneration, and management-unions relationships is studied. Prerequisites: (BUS 101 or IET 141) and (MGT 212 or IET 242 or OMT 100)

MGT 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

MGT 291 - Management Honors ..... **(3:3:0)**
Introduction to the management field, presenting a systemized

body of knowledge through the functions of planning, organizing, staffing, motivating, controlling, and utilizing strategies to deal with internal and external environment forces. Students will apply the above concepts through a variety of prospects and/ or computer exercises or simulations with an appropriate project. Prerequisites: BUS 101 and ENG 121 & MAT 255

MIS 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

MIS 220 - Management Information Systems.....**(3:3:1)**
This course presents essential information, systems, concepts, and practices required to manage a modern organization. Topics focus on how Information Systems are causing changes in the organization and the operation of businesses and how information systems can increase the competitiveness of a business. Prerequisites: (BUS 101 or IET 141) and (CIS 107 or IET 150) and (MGT 212 or IET 242 or OMT 100).

MIS 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

MKT 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

MKT 212 - Principles of Marketing.....**(3:3:0)**
This course will survey marketing principles with an emphasis on how they affect both consumer and industrial buying behaviors. Topics include: marketing mix, pricing techniques under various market conditions, effect of supply and demand, channels of distribution, marketing research, brand policy and government regulation of marketing. Pre-requisites: (Test score or ENG 121) and (Test score or MAT 015 or MAT 090 or MAT 135 or MAT 140 or MAT 141 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 251 or MAT 261 or MAT 281) and ECO 111 and (BUS 101 or HRI 101 or ENT 101)

MKT 213 - Problems in Marketing.....**(3:3:0)**
Principles mastered in MKT 212 Principles of Marketing applied to marketing situations and problems through the use of written and oral case study analysis and presentation. Prerequisites: MKT 212

MKT 214 - Advertising and Promotion.....**(3:3:0)**
This course, an overview and application of advertising and promotion principles, introduces concepts of planning, advertising, research, artistic, creative, and psychological aspects to advertising as well as other promotional activities. Prerequisites: MKT 212

MKT 216 - Retailing.....**(3:3:0)**
The student will examine changes in marketing and consumer demand for goods and services. Principles of retailing, its role in the economy, emerging trends, consumer behavior, customer satisfaction, merchandising and service strategies, and legal and ethical considerations are presented. Prerequisites: BUS 101 and MKT 212.

MKT 217 - E-Marketing Fundamentals.....**(3:3:1)**
This course explores web marketing including internet marketing strategies and performance metrics, on-line design principles, and on-line customer relationships. Students will complete various hands-on projects related to building and managing a sucessful on-line marketing operation. Prerequisites: MKT 212 and CIS 107.

MKT 219 - Sales & Sales Management.....**(3:3:0)**
An introduction to the basic principles of sales, including prospecting, identifying customer wants, needs, and buying motives; creating effective sales presentations and demonstrations; handling buyer resistance; closing the sale; providing after sales support; and managing a sales staff. Prerequisites: BUS 101 or ENT 101

MKT 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

MKT 291 - Marketing Honors.....**(3:3:0)**
A survey of marketing principles with an emphasis on how they affect both consumer and industrial buying behaviors. Topics include marketing mix, pricing techniques under various market conditions, effect of supply and demand, channels of distribution, marketing research, brand policy, and government regulations of marketing. Students will apply the above concepts through a variety of prospects and/or computer exercises or simulations, with an appropriate project. Prerequisites: BUS 101 and ECO 111 and ENG 121 and MAT 255

MLT 101 - Intro to Med/Clinical Lab Tech.....**(3:2:2)**
This course is designed to give an overview of clinical laboratory science to include basic skills, procedures, laboratory safety, use and care of laboratory equipment, laboratory settings, accreditation and certification. No prerequisites are required. Prerequisite: None

MLT 120 - Hematology I.....**(4:3:3)**
Normal maturation, morphology, function of blood cells, and hemostasis, as well as qualitative and quantitative changes that occur are included in the course. Phlebotomy techniques and the practical application of instrumentation used in the hematology lab are covered in the lab. Pre-requisites: Test Score or RDG 051 and Test Score or ENG 051 and Test Sore or MAT 012.

MLT 121 - Hematology II.....**(4:3:3)**
The course covers special hematologic procedures, coagulation, and blood disorders. Practical application of instrumentation used in the hematology lab is included. Prerequisites: MLT 120

MLT 130 - Hematology for the Vet Tech.....**(4:3:3)**
Normal maturation, morphology, function of blood cells, and hemostasis as well as qualitative and quantitative changes that occur are included in this course. Venipuncture techniques and the practical application of instrumentation used in the veterinary hospital are covered in lab. Prerequisites: VET 101 and VET 102.

MLT 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

MLT 220 - Clinical Chemistry I.....**(4:3:3)**
The course will cover the qualitative and quantitative measurement of biochemical constituents in body fluids and their significance to disease. Topics include urinalysis, electrolyte and acid-base balance, and carbohydrate and non-protein nitrogen analysis. Laboratory exercises will incorporate sample collection and preparation, safety, quality control, and instrumentation. Prerequisites: CHM 151

MLT 221 - Clinical Chemistry II ..... **(4:3:3)**
The course will cover the qualitative and quantitative measurement of biochemical constituents in body fluids and their significance to disease. Topics include the study of the liver and biliary system, enzymology, endocrinology, toxicology, and special testing. Laboratory exercises will emphasize instrumentation. Prerequisites: MLT 220

MLT 250 - Clinical Microbiology I ..... **(4:3:3)**
This course covers microbial structure, metabolism, growth and control. Interactions between humans and microbes are also studied. In addition, the laboratory portion of this course covers isolation, identification and antibiotic studies of bacteria of clinical significance. Prerequisites: BIO 120 and BIO 121 and (CHM 110 or CHM 150)

MLT 251 - Clinical Microbiology II ..... **(4:3:3)**
This course covers isolation, identification, and antibiotic studies of bacteria of clinical significance. Basic techniques used to detect and identify fungi and parasites are introduced. Prerequisites: MLT 250

MLT 260 - Immunology ..... **(4:3:3)**
The course covers theory and application of immunity and the immune response such as antibody structure and interactions, the complement system, hypersensitivity reactions and disorders of the immune response. Emphasis will be placed on routine immunology/ serology procedures and interpretation of test results in relation to disease states. Student laboratory is used to provide experiences in fundamental serology/immunology techniques. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185) and BIO 120.

MLT 261 - Blood Banking ..... **(4:3:3)**
The course covers theory of the immune response and the use of antigen-antibody reactions in the diagnosis of disease. Serological characteristics and clinical significance of blood group antigens and antibodies that are important in therapeutic and diagnostic procedures in the blood bank are included. Prerequisites: MLT 260

MLT 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

MLT 291 - Clinical Practicum ..... **(7:0:36)**
The course provides an intense exposure to the clinical laboratory environment to familiarize the student with the scope of work, variety of tests, and automation that is found within each laboratory department. Rotations will be scheduled in hematology, urinalysis, microbiology, clinical chemistry, serology, blood bank and phlebotomy. Prerequisites: MLT 271 and MLT 221 and MLT 251

MTS 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

MTS 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

NCC 046 - Grammar for College Comm ..... **(7:7:2)**
Designed for the non-native speaker of English who has English language fluency, this course focuses on the complex grammatical structures of English and applies those structures to writing needed for college level studies. Prerequisite: Test score or completion of secondary school in the United States.

NCJ 120 - Child Care Adm Business Issues ..... **(1:1:0)**
This course is designed to provide students with information on the business aspects of administering a child care center. Students will gain experience in areas of licensing requirements, legal issues effecting childhood programs, marketing the center, and financial planning and application. Prerequisites: None

NCJ 121 - Child Care Adm Human Relations ..... **(1:1:0)**
This course is designed to provide child care administrators with an opportunity to explore and implement specific strategies for improving working relationships with staff and families within the work setting. Students will gain skills to conduct effective staff meetings, discover leadership styles, practice conflict resolution, and identify staff development needs. Prerequisites: None

NCJ 122 - Child Care Adm Prog Dev & Eval ..... **(1:1:0)**
This course is designed to provide child care administrators with an opportunity to explore methods of program evaluation and techniques for program improvement to better serve children and to align their programs with community needs. Prerequisites: None

NCJ 125 - School Age Development ..... **(1:1:0)**
Students will study the major theories of child development, and current research relating to adolescence. Special behavioral considerations and disability awareness will be covered. Students will reflect on best practices as they relate to program goals, procedures and policies. Prerequisites: None

NCJ 126 - School Age Comm Strategies ..... **(1:1:0)**
Students will practice effective communication with children, staff, parents and school personnel, and will learn some basic conflict resolution and peer medication techniques. Prerequisites: None

NCJ 127 - School Age Curr Dev Programmng ..... **(1:1:0)**
Students will define their personal philosophy of school-age care, formulate program goals, policies, and procedures, and create a developmentally appropriate curriculum for program implementation or improvement. Prerequisites: None

NCN 103 - Shop Applications for Computer ..... **(3:2:2)**
This is an introductory course in modern personal computing. The skills learned in this course are computing survival skills for the modern industrial work force. These skills will also assist the student in the CNC and Graphics CAD courses. The covered topics include: keyboarding skills, basic MS-DOS commands, file manipulation, file transfer, basic Windows and a brief introduction to word processing and spread sheets. Introduction to selected software used on local shop floors will be included in the course of study. Prerequisite: Test score or MAT 012

NCN 104 - Geometric Dimension/Tolerance ..... **(2:2:0)**
A study of practical applications of the industry standard Geometric Dimensioning and Tolerancing Standard ANSI Y14.5M- 1994 or the latest revision thereof. Topics covered included tolerancing, datums, symbols, terms and locations. The majority of time will be spent interpreting drawings and relating these interpretations to the manufacturing floor. Prerequisites: MET 131 and MET 123

NCN 105 - Machine Shop Practicum I ..... **(4:2:5)**
This course will supplement the hands-on skills learned in MET 123. Under the tutelage and supervision of the instructor, students will use typical machine shop machines to build and inspect actual parts. The machines covered include engine lathes, vertical milling machines, bench grinders, drill presses, band saws and cut-off saws. The instructor will also demonstrate proper uses of typical measuring and inspection devices. Machine Shop Practicum I and Machine Shop Practicum II are the courses where intermediate and advanced machine shop skills, not addressed in other classes, are to be covered. Prerequisites: Test score or MAT 015 or MAT 016 and MET 123

NCN 106 - Machine Shop Practicum II ..... **(4:2:5)**
This is a one-semester course designed to provide the student with the opportunity to refine skills learned in other classes and to develop more advanced skills that are prevalent in modern machine shops. Safety for the operator, machine and others will be closely monitored. Pre-requisites: MET 125 and NCN 105

NCN 245 - Intro to Polymer Science ..... **(3:3:0)**
The course will include the molecular structure, synthesis and characterization of synthetic polymers. In addition, the unique thermomechanical, electrical, and solution properties of polymers will be studied. Prerequisites: CHM 240

NCS 005 - Basic Math Review Lecture ..... **(1:1:0)**
This review course is designed for the college student who needs a rapid review in basic numerical processes with whole numbers, fractions, decimals, ratios, proportions and percents and their applications. (Credits do not apply to graduation requirements.) Prerequisite: Test score

NCS 012 - Math Fundmnt'ls Review Lecture ..... **(1:1:0)**
This review course is designed for the college student who needs a rapid review in basic numerical processes with whole numbers, fractions, decimals, ratios, proportions, percents, geometry, measurement, signed numbers, solving equations and their applications. (Credits do not apply to graduation requirements.) Prerequisite: Test score or MAT 005

NCS 051 - Pre-Tech Writing Review ..... **(1:1:0)**
A rapid review course designed to provide reinforcement in writing skills before taking English Composition. Topics include sentence structure, usage, and essay development. (Credits do not apply to graduation requirements.) Prerequisite: Test score or ENG 005

NCS 052 - Pre Tech Reading Review ..... **(1:1:0)**
A rapid review course designed to provide reinforcement in vocabulary, comprehension skills, and reading flexibility before taking Critical Reading and Thinking. Prerequisite: Test score

NCS 107 - Introduction to Computers ..... **(3:3:0)**
This course provides a basic introduction to microcomputers. Emphasis will be placed on students becoming familiar with the hardware, the Windows operating system, and word processing and spreadsheet packages. Prerequisites: None

NCS 110 - Biotechnolgy Summer Exp ..... **(1:1:1)**
This course will cover basic topics and techniques of biotechnology. Topics may include DNA and protein structure and separation, bacterial transformation, polymerase chain reaction, genetic diseases, forensics, and genetically modified organisms. Laboratory experiments will be an integral part of this course. Prerequisites: Test score or RDG 051 or ESL 100 or RDG 100 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125

NCS 115 - Topics in Health Care ..... **(1:1:0)**
This course will investigate the subject of health care disparities in the United States. Topics may include historical biases, issues affecting access to health care, community health care attitudes, research on health care and treatments, and the effect of the genetic background of various ethnic groups on health. Prerequisites: Test score or RDG 051 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125

NCW 040 - Chemistry Mathematics ..... **(1:1:0)**
This course is designed for students who will benefit from a refresher in the basic mathematics required for chemistry. The course emphasis includes algebraic techniques, logarithms, ratios and proportions. Prerequisites: Test score or MAT 012 or NCS 012

NCW 090 - Intro to College Rhetoric ..... **(1:1:0)**
A sixteen-hour course designed for students to complete the objectives outlined in Unit 4 of ENG 051, Pre-Tech Writing. Successful completion of this course enables students to move directly into Composition. Additional assistance is available in the Learning Assistance Center and Writing Center. Prerequisites: Test score or ENG 051

NCW 091 - Intro to Textual Analysis ..... **(1:1:0)**
A sixteen-hour course designed for students to complete the objectives outlined in Unit 4 of RDG 051, Pre-Tech Reading. Successful completion of this course enables students to move directly into Critical Reading and Thinking. Additional assistance is available in the Learning Assistance Center and Writing Center. Prerequisites: Test score or RDG 051

NFD 101 - New Faculty Development ..... **(2:2:LAB_HOURS)**
This course provides an orientation to effective instruction at Delaware Technical Community College. Participants will be provided with an overview of our institution's history, mission, values, academic philosophy and standards, and issues/topics important for new faculty to understand. Course topics include but are not limited to: Middle States Characteristics of Excellence, institutional effectiveness (including planning and assessment), effective advisement, student success, student engagement, instructional strategies, emotional intelligence, information literacy, articulation, FERPA, copyright, and HEOA legislation.

NMT 101 - Patient Care for the NMT ..... **(2:1:1)**
DESCRIPTION

NMT 115 - Intro to NMT with Clinical Lab ..... **(4:3:5)**
Introduction to quality control, radiation measurement, appropriate venipuncture techniques, application of infection control and safety procedures and computer applications for nuclear medicine. Clinical practicum will include 80 hours of IV training and nuclear medicine procedures. Prerequisites: HLH 101

NMT 121 - Computers & Informatics ..... **(2:2:LAB_HOURS)**
DESCRIPTION

NMT 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

NMT 201 - Nuclear Medicine I ..... **(4:4:0)**
The study of current uses of radiopharmaceuticals for organ visualization and function, evaluation of results and

pathology. Prerequisites: (ENG 122 or ENG 130) and BIO 121 and NMT 222. Co-requisites: NMT 224 and NMT 295

NMT 202 - Nuclear Medicine II ..... **(3:3:0)**
The continued study of current uses of radiopharmaceuticals for organ visualization and function, evaluation of results, and pathology. Prerequisites: NMT 201 Co-requisites: NMT 211 and NMT 223 and NMT 296.

NMT 203 - Nuclear Medicine III ..... **(2:2:0)**
The study of current uses of radiopharmaceuticals for organ visualization and function, evaluation of results, pathology and radioassay procedures. Prerequisites: NMT 202 Co-requisites: NMT 212 and NMT 226 and NMT 297.

NMT 211 - Scan Reading I ..... **(1:0:3)**
In the review and interpretation of studies performed, the student is able to see directly how the work accomplished each day affects the overall patient diagnosis. Prerequisites: NMT 115 and BIO 121 and NMT 222 Co-requisites: NMT 201 and NMT 295

NMT 212 - Scan Reading & PET/CT ..... **(1:0:2)**
A continuation of NMT 211 Scan Reading & PET/CT. In the review and interpretation of studies performed, the student is able to see directly how the work accomplished each day affects the overall patient diagnosis. Prerequisites: NMT 211 Co-requisites: NMT 203 and NMT 226 and NMT 297

NMT 222 - Nuclear Physics ..... **(3:3:0)**
This course is an introduction to the atom and radioactivity. The major topics to be covered include atomic structure, decay processes and products, half-life, interaction of radiation with matter, and dosimetry. Prerequisites: NMT 101 and (PHY 112 or PHY 205)

NMT 223 - Nuclear Med Instrumentation ..... **(4:3:3)**
Through lecture and laboratory sessions, basic principles of radiation detection are applied. Imaging systems, radionuclide statistics, quality control, spect, and computer applications are stressed. Prerequisites: NMT 115 and NMT 295 Co-requisites: NMT 202 and NMT 211 and NMT 296

NMT 224 - Radiopharmacy & Pharmacology ..... **(2:2:0)**
An introduction to radiopharmaceutical synthesis, sterility testing, quality control, mechanisms of radionuclide localizations, and governmental regulations. Prerequisites: CHM 111 and NMT 115 Co-requisites: NMT 201 and NMT 295

NMT 226 - Radiobiology/Protection ..... **(2:2:0)**
A study of the genetic and somatic effects resulting from radiation interactions by presenting principles of radiation therapy related to human injury. Students learn radiation hazards, evaluation methods, prevention, and decontamination. The course addresses government regulations related to patient, employee, general public, and environment. Prerequisites: NMT 222 and NMT 223 and NMT 224 Co-requisites: NMT 203 and NMT 297

NMT 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

NMT 295 - Clinical Internship I ..... **(4:0:18)**
Provides initial training in the field of Nuclear Medicine Technology by rotating through each section of the affiliate hospitals. Administration, clinical procedures, equipment operations, and health physics will be mastered by supervised hands-on experience. Prerequisites: NMT 115 and NMT 222 Co-requisites: NMT 201 and NMT 211

NMT 296 - Clinical Internship II ..... **(5:0:25)**
Provides intermediate training in the field of Nuclear Medicine Technology by rotating through each section of the affiliate hospitals. Administration, clinical procedures equipment operations, and health physics will be mastered by supervised hands-on experience. Prerequisites: NMT 201 and NMT 295 and NMT 211 Co-requisites: NMT 202 and NMT 212 and NMT 223 and NMT 224

NMT 297 - Clinical Internship III w/CT ..... **(6:0:32)**
Provides advanced training in the field of Nuclear Medicine Technology by rotating through each section of the affiliate hospitals. Administration, clinical procedures, equipment operations, and health physics will be mastered by supervised hands-on experience. Practicum evaluation of computer techniques and programs will be emphasized. Prerequisite: NMT 296 Co-requisites: NMT 203 and NMT 212 and NMT 226

NRG 100 - Exploring Eng & Sustainability ..... **(1:1:1)**
This course provides an overview of sustainable design practices, energy systems, renewable energy technologies and their current applications. Emphasis will be placed on energy consumption, production, efficiency, and conservation. Prerequisites: (Test score or ENG 005 or ENG 006 or ENG 051 or ENG 099 or NCW 090 or ESL 034 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 005 or ENG 006 or RDG 051 or ENG 099 or NCS 052 or NCW 091 or ESL 032 or ESL 100 or RDG 120) and (Test score or MAT 012 or MAT 015 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 150 or MAT 181).

NRG 101 - Intro to Energy Management ..... **(3:2:2)**
This course is an introduction to the practice of energy management. Specific topics include career opportunities, working in teams, introduction to renewable and nonrenewable energy sources, energy end uses, unit conversion, basic energy physics, solving energy efficiency problems, and use of calculators and computers as tools for solving these problems. Prerequisites: (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 012 or higher

NRG 110 - Construction Standards ..... **(2:1:2)**
This course will investigate industry standards as applied to modern building construction. The student will be introduced to OSHA regulations pertinent to the construction industry to assure safety in the installation of solar photovoltaic and solar thermal systems. Hands-on use of tools, methods and materials common to light construction will be introduced. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 281).

NRG 111 - Res/Light Comm Energy Analysis ..... **(2:2:1)**
Topics include the following: residential/light commercial heating systems; heat transfer through building envelope; degree days; sources of internal heat gains; heat loss calculations, indoor air pollution; codes and regulations. Spreadsheets will be used. Prerequisites: PHY 111 and NRG 101 and NRG 103.

NRG 123 - Fundamentals of Control System ..... **(3:2:3)**
This course introduces the concepts of building automated control systems. Topics include sensors, controlled variables, devices, controllers, and signals with an emphasis on design characteristics, sensor calibration, and maintenance of major components. Control drawings, schematics, and process and instrumentation diagrams are introduced. Pre-requisites: MAT 140 and NRG 140

NRG 124 - Energy Efficient Methods ..... **(3:2:2)**
This course covers the physics and calculations used in energy analyses including the basics of alternating current (AC) and direct current (DC) power, electromagnetism, motor operation, single- and three-phase power calculations, as well as inductive and capacitive reactance as it applies to power factor. Topics include interpolation and extrapolation methodology used in energy calculations. Prerequisites: NRG 101 and OAT 152 and MAT 140.

NRG 131 - Lighting Fundamentals ..... **(2:2:1)**
Topics include assessment of quantity and quality of light, light sources, luminaries, lighting controls, manufacturer lamp and interactions, retrofit opportunities, cost savings analysis, and lighting codes/regulations. Course requirements include a directly supervised lighting audit project. Prerequisite: PHY 111

NRG 140 - Commercial Building Systems ..... **(3:2:2)**
This course introduces plumbing; electrical; lighting; life safety; and heating, ventilating, and air conditioning (HVAC) systems in commercial buildings. Emphasis is placed on the performance characteristics and maintenance requirements of these systems as they drive control requirements. Various sequences of operation and maintenance procedures are covered. Pre-requisites: Test score or MAT 015 or higher

NRG 142 - Energy Accounting ..... **(2:2:0)**
Course will include review of energy units, data gathering for energy accounting utillity rates and schedules, energy data organization, adjusted baselines, cost avoidance, load factor, data analysis, data presentation, use EPA's Portfolio Manager software. Prerequisites: OAT 152

NRG 154 - Alternativ Energy Technologies ..... **(2:2:1)**
A survey of the sources of energy that may be used to increase energy supply. Included are geothermal, wind, low head hydro. solar and biomass. Environmental, social and economic advantages of each source are assessed. Prerequisites: OAT 152 and (MAT 140 or MAT 181 or MAT 182 or MAT 185 or MAT 281).

NRG 200 - Solar Energy Systems ..... **(2:2:1)**
Solar Energy Systems is a course that details the resources and movement of the sun. Students will determine the sun hours for a given location and time. Students will use tools and associated software to properly perform a complete site analysis. Prerequisite: NRG 154

NRG 201 - Photovoltaic Systems I ..... **(4:3:2)**
This course covers the fundamentals of photovoltaic (PV) modules, including how a solar cell coverts sunlight into electricity. The system components of a PV system, including the role of modules, inverters, and charge controllers, are discussed. Students size PV systems for a variety of uses. Prerequisite: NRG 154 and NRG 200 or concurrent

NRG 202 - Photovoltaic Systems II ..... **(3:2:2)**
This course covers the design of both the electrical and mechanical systems required in photovoltaic systems. Secondary components required in photovoltaic (PV) systems and how all parts are integrated into the overall system are explored. Troubleshooting and resolving typical problems that can occur when installing PV systems are discussed. Prerequisites: NRG 110 and NRG 201 and ELC 125

NRG 203 - Cncpts of Solar Thermal Design ..... **(3:2:2)**
This course introduces the concepts of solar heating design, installation, and operation. Design characteristics, components, operation and maintenance of major components are covered. Site evaluation, codes and regulations, system selection, and planning are emphasized. Prerequisites: NRG 110 and NRG 200

NRG 204 - Coop Ed:Renewable Energy Solar ..... **(3:LECTURE_HOURS:9)**
The Renewable Energy-Solar Cooperative Education course will provide ways for students to increase their awareness of industry expectations, as well as develop job search tools and skills. The content is designed to help students present themselves to employers in a competent and professional manner and to move initially into their Cooperative Education; then into their professional careers. Students will work in a Renewable Energy related Cooperative Education job for a minimum of 144 hours. Prerequisites: NRG 110 and NRG 201

NRG 206 - Co-op Ed: Energy Management ..... **(3:0:9)**
The Energy Management Cooperative Education course provides practical field experience in the energy field. Prerequisite: NRG 124

NRG 207 - NABCEP Solar Entry Level Prep **(1:1:LAB_HOURS)**
This course is a review for the North American Board of Certified Energy Practitioners (NABCEP) Entry Level Exam. Prerequisites: NRG 110 and NRG 201

NRG 209 - BAS Co-operative Education ..... **(3:0:9)**
This course provides the student with practical experience in the building automation system field. Prerequisites: NRG 123 and ACR 121

NRG 212 - Commercial Energy Use Analysis ..... **(3:2:2)**
This course applies skills learned throughout the energy management program to a commercial building energy audit. It includes analysis of all key building components including envelope, HVAC systems, lighting systems, and operation and maintenance procedures. The analysis includes recommendations for upgrades and the cost savings associated with those upgrades. Prerequisites: NRG 124 and NRG 142 and ACR 222 and NRG 233 and ENG 102 or concurrent

NRG 213 - Building Energy Simulations ..... **(4:3:3)**
Building Energy Simulations provides students with direct, hands-on experience with widely used building energy analysis tools. Students will learn about the program's basic modeling assumptions and build a series of increasingly complex models that explore the various features and capabilities of the building energy simulation software. Students will also develop a calibrated energy simulation of an existing building and then simulate potential energy benefits of various retrofitting measures to the building. Pre-requisites: (NRG 212 or NRG 212 concurrent)

NRG 223 - Energy Control Strategies ..... **(3:2:2)**
Topics include building system control theory and sequences. Controlled device selection criteria are discussed and the effects on system performance are analyzed. An emphasis is placed on identifying and understanding control strategies related to HVAC equipment and components. Modifications in control sequence of operations are evaluated and calculations are employed to estimate energy savings. Students complete an energy efficiency controls calculation project. Prerequisites: NRG 124 and NRG 222

NRG 232 - Lighting Applications ..... **(2:2:1)**
This course teaches lighting applications for different building types. Students will critically evaluate lighting systems, luminaries and associated components and perform various types of illuminance calculations. Students will work effectively as a member of a team in the development of lighting audits with potential energy conservation methods from various lighting measures Prerequisites: NRG 131 and MAT 140 or MAT 181 or MAT 182 or MAT 185 or MAT 281.

NRG 233 - Lighting Fundmt & Applications ..... **(4:3:2)**
This course examines fundamental lighting concepts and their utilization and applications within the built environment. Students identify and evaluate the various quantitative and qualitative characteristics of light sources and luminaires, as well as perform various types of illuminance calculations. Student teams will develop lighting audits with potential energy conservation methods from various lighting measures. Prerequisites: (PHY 111 or PHY 205) and (Test scores or MAT 140 or MAT 181 or MAT 185)

NRG 241 - Energy Investment Analysis ..... **(2:2:1)**
A student in this course will learn to construct spreadsheets to analyze energy investment alternatives. Topics include: interest, simple payback and life-cycle analysis, time value of money, cash flow equivalence, cost- benefit analysis, effects of tax credits, depreciation, inflation and/or escalating fuel costs on energy investments, and cost estimating procedures. Prerequisites: NRG 111 and OAT 152

NRG 245 - Building Systems Integration ..... **(3:2:2)**
This course covers the application of controls and networking fundamentals to integrate access, lighting, environmental control, and fire alarm management building systems into a functional building operating system. Emphasis is placed on alarm reporting and remote energy management capabilities. System and building commissioning processes are also covered. Prerequisites: NRG 123 and CEN 126

NRG 253 - BAS Capstone ..... **(3:2:4)**
Students assemble and install a control system and operator interface to manage commercial building mechanical and electrical systems such as heating/ ventilating/air conditioning (HVAC), lighting, security, and fire alarm in a laboratory environment. Prerequisites: ACR 222 and NRG 245 and NRG 223 or concurrent

NUR 101 - NLN-RN PAX Preparation Course ..... **(1:1:0)**
This course is designed to assist prospective nursing students to be better prepared to take the National League for Nursing Pre-Admission Exam (NLN-PAX). The NLN-PAX is required as part of the application process for the Associate Degree Nursing Program at the Owens, Terry, and Stanton campuses of Delaware Tech. Prerequisites: (Test score or MAT 005 or NCS 005 or NCW 045 or MAT 090 or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 181) and (Test score or ENG 005 or ENG 006 or ENG 051 or ENG 099 or NCS 051 or ESL 034 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 005 or ENG 006 or RDG 051 or ENG 099 or NCS 052 or ESL 032 or ESL 100 or RDG 120).

NUR 102 - NLN-PN PAX Preparation Course ..... **(1:1:LAB_HOURS)**
This course is designed to assist prospective nursing students to be better prepared to take the National League for Nursing Pre-Admission Exam (NLN-PAX). The NLN-PAX is required as part of the application process for the Associate Degree Nursing Program at the Owens, Terry and Stanton campuses of Delaware Tech. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or MAT 005 or NCS 005 or MAT 012 or NCS 012 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 181)

NUR 111 - Cultural Competency & Health ..... **(3:3:0)**
This course introduces cultural theories and concepts that influence health beliefs and practices. It is designed to offer health care providers with tools for the effective delivery of culturally competent care. Prerequisites: Test score or ENG 121 or ENG 125 and SOC 111

NUR 114 - Pharmacology for Nurses ..... **(3:3:0)**
This elective course is designed to provide nursing students with additional knowledge of pharmacology. This course introduces the principles of pharmacology, including drug classifications and their effects on the body. Drug prototypes are used to examine major drug classifications highlighting therapeutic use, adverse reactions, precautions, and contraindications, and health teaching. Legal, ethical, and contemporary issues are presented as they relate to nursing practice. Prerequisites: BIO 120 and BIO 121.

NUR 121 - Nursing Fundamentals I ..... **(11:6:5)**
This course provides the foundational content for beginning nursing practice. The steps of the nursing process are introduced. Principles relating to communication, activities of daily living, safety, infection control, medication administration, data collection, and documentation are covered. All basic nursing skills including physical assessment are taught and implemented in laboratory and long-term care clinical settings. Prerequisites: (Test score or RDG 120) and (BIO 110 or BIO 120) and MAT 119

NUR 122 - Nursing Fundamentals II ..... **(11:6:5)**
This course builds on the content provided in NUR 121 and NUR 123 to address the nursing care of patients with commonly experienced health problems. The clinical experience in the course is two-fold: the implementation of didactic content provided in NUR 123 in a variety of settings for special populations and the application of skills in the acute care setting for medical-surgical patients with the building of nursing knowledge for this population. Prerequisites: NUR 121 and NUR 123 and (BIO 121 or BIO 110)

NUR 123 - Nursing of Special Populations ..... **(3:3:0)**
The course is designed to assist the student to provide basic assessment of psychiatric, geriatric, obstetric, and pediatric clients. Selected principles related to safety, pharmacology, and nutrition are covered. The student gains knowledge in these content areas with an emphasis on normal health needs, health deviations, and developmental factors. Prerequisites: (Test score or RDG 120) and (BIO 110 or BIO 120) and MAT 119

NUR 124 - Basic Nursing Concepts ..... **(6:4:6)**
This course provides the foundational content for beginning nursing practice. The steps of the nursing process are introduced. Principles relating to communication, activities of daily living, safety, infection control, data collection, and documentation are covered. Basic nursing skills including physical assessment are taught and implemented in the clinical laboratory setting. Prerequisites: (Test score or RDG 120) and (BIO 110 or BIO 120) and MAT 119

NUR 125 - Nursing Concepts I ..... **(8:4:12)**
This course builds on the content provided in NUR 124 to address the nursing care of patients with issues related to activities of daily living. Principles relating to pharmacology, medication administration, care of the patient having surgery, and those with infectious

diseases are covered. Nursing skills are implemented in the clinical laboratory and long-term care settings. Prerequisite: NUR 124

NUR 126 - Nursing Concepts II ..... **(8:4:12)**
This course builds on the content provided in NUR 123, 124 and 125 to address the nursing care of patients with commonly experienced health problems. The clinical experience in the course is two-fold: the implementation of didactic content provided in NUR 123 in variety of settings for special populations and the application of skills in the acute care setting for medical-surgical patients with the building of nursing knowledge for this population. Prerequisites: NUR 123 and NUR 125 and (BIO 110 or BIO 121)

NUR 131 - Fundamentals of Nursing..... **(4:2:6)**
This course introduces the student to the role of the practical nurse as a member of the multi-disciplinary health care team. Emphasis is placed on the integration of the nursing process and theoretical concepts into the performance of fundamental skills in a long term care setting. Prerequisites: BIO 110 or (BIO 120 or BIO 121) and PSY 127 or concurrent and MAT 129 and ENG 101

NUR 132 - Medical-Surgical Nursing I..... **(6:3:9)**
This course defines the role of the practical nurse as a provider of care and member within the disipline of nursing. Emphasis is placed on the systematic attainment of theoretical knowledge by the use of the nursing process and beginning critical thinking skills which are needed for beginning medical-surgical clinical practice. Concepts of promotion, maintenance and restoration of health are introduced when caring for adults in the acute care and community settings. Prerequisites: NUR 131 and (BIO 110 or BIO 120) and BIO 121 and (PSY 127 or PSY 127 concurrently).

NUR 133 - Medical-Surgical Nursing II ..... **(6:3:9)**
This course completes the systematic approach to the delivery of medical-surgical theoretical knowledge. The use of strengthened critical thinking exercises and the nursing process readies the practical nursing student for entry into a medical-surgical nursing practice when caring for adults in the acute care and community settings. Prerequisites: NUR 132 and MAT 119 and PSY 127 and (BIO 110 or BIO 120) and BIO 121.

NUR 134 - Essentials-Mental Hlth Nursing..... **(2:1:3)**
This course explores the role of the entry-level practical nurse as a provider of care and member within the discipline of nursing in the mental health setting by introducing theoretical knowledge needed for beginning clinical practice. The use of the nursing process promotes critical thinking in the care of clients with alterations in mental health. Prerequisites: (NUR 131 or concurrent) and (NUR 137 or concurrent)

NUR 135 - Essents Maternal/Chld Nursing ..... **(4:2:6)**
This course explores the role of the entry-level practical nurse as a provider of care and member within the discipline of nursing in the maternal-child setting by introducing theoretical knowledge needed for beginning clinical practice. The use of the nursing process promotes critical thinking in the care of childbearing families and children across the lifespan. Prerequisites: NUR 131 and NUR 137 and PSY 127

NUR 137 - Essentials Legal-Ethicl Issues..... **(1:1:0)**
This course explores the legat-ethical standards of nursing practice as it relates to the practical nurse. Emphasis is placed on development of interpersonal skills used in the workplace. Focus is placed on preparation for employment. Prerequisites: NUR 132 and PSY 127 and (BIO 110 or BIO 120) and BIO 121.

NUR 141 - Nursing Care I-A ..... **(5:2:9)**
Introduces the nurse's role as provider of care, manager of care and member within the discipline of nursing. Emphasizes concepts needed for competent beginning nursing practice. Learning experiences are provided in the campus lab with introduction to the clinical setting. Prerequisites: BIO 120 and MAT 119.

NUR 142 - Nursing Care I-B ..... **(5:2:9)**
Introduces the nurse's roles as provider of care, manager of care and member within the discipline of nursing. Emphasizes concepts needed for competent beginning nursing practice. Learning experiences are provided in acute care, long-term care and community settings. Prerequisites: BIO 120 and MAT 119.

NUR 143 - Nursing Care II-A ..... **(5:2:9)**
Continues the development of the nurse's role as provider of care, manager of care and member within the discipline of nursing. Emphasis is placed on theoretical knowledge and the use of the nursing process and critical thinking required for the implementation of safe nursing care. Learning experiences focus on caring for the individual adult in a variety of health-care settings where the student functions as a member of the health-care team. Prerequisites: BIO 121 and PSY 127 and NUR 141 and NUR 142.

NUR 144 - Nursing Care II-B ..... **(5:2:9)**
Continues the development of the nurse's role as provider of care, manager of care and member within the discipline of nursing. Emphasis is placed on theoretical knowledge and the use of the nursing process and critical thinking required for the implementation of safe nursing care. Learning experiences focus on caring for child bearing and child rearing families within a variety of settings including the community. Prerequisites: BIO 121 and PSY 127 and NUR 141 and NUR 142.

NUR 145 - LPN to RN Role Transition..... **(2:2:0)**
This course assists with the transition from the role of the LPN to the RN roles of provider of care, manager of care and member within the discipline of nursing as an Associate Degree Nurse. Emphasis is placed on the concepts of clinical competence and critical thinking in the planning and documentation of care for clients in a variety of health settings. Learning experiences are provided through independent study and simulation in the nursing campus lab setting.

NUR 170 - Nursing Concepts I..... **(8:5:9)**
This adult health nursing course is designed to begin the development of the nurse's role as an entry level healthcare provider. The majority of curricular concepts integral to the individual, nursing, and healthcare domains are introduced in this foundational course. Emphasis is placed on the concepts of medication administration, health promotion and disease prevention, oxygenation, perfusion, culture and diversity, leadership, safety, evidence based practice, informatics, patient-centered care and concepts that teach assessment. Classroom learning experiences are student-centered, incorporate active learning strategies, and enhance the student's ability to apply theory to practice. Clinical experiences emphasize the safe performance of nursing practice within a variety of healthcare settings. Upon completion of this course, students will be able to demonstrate the knowledge, skills, and attitudes essential to provide safe nursing care incorporating the concepts taught in this course. Prerequisites: BIO 120 and (MAT 119 or MAT 129)

NUR 171 - Nursing Care of Adults I..... **(4:2:6)**
This course introduces the student to the role of the nurse as a member of the multi-disciplinary health care team. Emphasis is placed on theoretical concepts and the performance of fundamental skills. Critical thinking is introduced using the nursing process

in the care of adults in long-term care settings. Prerequisites: BIO 110 or BIO 120 and BIO 121 and ENG 121 and PSY 127

NUR 172 - Nursing Care of Adults II ..... **(6:3:9)**
This course defines the role of the nurse as a provider of care, and member within the discipline of nursing. Emphasis is placed on theoretical knowledge needed for beginning clinical competence. Through use of critical thinking and the nursing process, focus is placed on concepts of promotion, maintenance, and restoration of health when caring for adults in acute care and community settings. Prerequisites: (BIO 110 or BIO 120) and BIO 121 and NUR 171.

NUR 173 - Nursing Care of Adults III ..... **(6:3:9)**
This course enables a demonstration of an understanding of the role of the nurse in entry-level practice as a provider of care and member within the discipline of nursing. There is continued emphasis placed on theoretical knowledge needed for clinical competence. By building on critical thinking and the nursing process, focus is placed on the concepts of promotion, maintenance, and restoration of health when caring for adults in the acute care and community settings. Prerequisites: (BIO 110 or BIO 120) and BIO 121 and MAT 119 and NUR 172.

NUR 174 - Mental Health Nursing ..... **(2:1:3)**
This course enables the demonstration of an understanding of the role of the entry-level nurse as a provider of care, and member within the discipline of nursing in mental health settings. Introduces theoretical knowledge needed for beginning clinical competence. By continuing to build on critical thinking and the nursing process, focus is placed on the concepts of promotion, maintenance, and restoration of health when caring for clients with alterations in mental health. Prerequisites: (BIO 110 or BIO 120) and BIO 121 and MAT 119 and NUR 172.

NUR 175 - Maternal/Newborn Nursing I ..... **(2:1:3)**
This course enables demonstration of an understanding of the role of the entry-level nurse as a provider of care and member within the discipline of nursing in the maternal-newborn setting. Introduces theoretical knowledge needed for beginning clinical competence. By continuing to build on critical thinking and the nursing process, focus is placed on promotion, maintenance, and restoration of health for the care of childbearing families and women across the reproductive life span. Prerequisites: (BIO 110 or BIO 120) and BIO 121 and MAT 119 and NUR 172.

NUR 176 - Nursing Care of Children I ..... **(2:1:3)**
This course enables demonstration of an understanding of the role of the entry-level nurse as a provider of care and member within the discipline of nursing in pediatric settings. Emphasis is placed on theoretical knowledge needed for beginning clinical competence. By continuing to build on critical thinking and the nursing process, focus is placed on the concepts of promotion, maintenance, and restoration of health when caring for children and their families. Prerequisites: (BIO 110 or BIO 120) and BIO 121 and MAT 119 and NUR 172.

NUR 177 - Nursing Perspectives I ..... **(1:1:0)**
This course enables demonstration of an understanding of the role of the entry-level nurse as it relates to the legal and ethical standards of nursing practice. Emphasis is placed on development of interpersonal skills used in the workplace. Focus is placed on preparation for employment. Prerequisites: (BIO 110 or BIO 120) and BIO 121 and NUR 172.

NUR 178 - Transition:Professionl Nursing ..... **(2:2:0)**
This course assesses and provides theoretical and clinical knowledge, as well as curriculum awareness, for the transitioning Licensed Practical Nurse into the Associate Degree Nursing program. Emphasis is placed on establishing a baseline of knowledge and clinical competency that assists the returning student in his or her goal to be a professional nurse. Prerequisites: NUR 173 and NUR 174 and NUR 175 and NUR 176 and NUR 177; or NUR 199; and BIO 120 and BIO 121 and PSY 127 and MAT 119 and ENG 121.

NUR 179 - Paramedic Bridge Course ..... **(10:8:2)**
This course assesses and provides theoretical and clinical knowledge, as well as curriculum awareness, for the transitioning certified paramedic into the Associate Degree Nursing program. Emphasis is placed on establishing a baseline of knowledge and clinical competency with diverse populations in a variety of settings that assists the paramedic in his or her goal to be a professional nurse. Prerequisites: NUR 198 and BIO 120 and BIO 121 and BIO 125 and MAT 119 and PSY 127 and (Test Score or ENG 121 or ENG 125) and RDG 120.

NUR 180 - Nursing Concepts II ..... **(4:2:6)**
This adult health nursing course is designed to further develop the nurse's role as an entry-level healthcare provider. Concepts integral to the individual, nursing, and healthcare domains build on prior knowledge and are demonstrated through increasingly complex exemplars in a simple care environment. Emphasis is placed on health and illness, as taught through new concepts introduced in this course, which include acid base balance, metabolism, cellular regulation, inflammation, and immunity. Classroom learning experiences are student-centered, incorporate active learning strategies, and enhance the student's ability to apply theory to practice. Clinical experiences emphasize the safe performance of nursing practice primarily in inpatient healthcare settings. Upon completion of this course, students will be able to demonstrate the knowledge, skills, and attitudes essential to provide safe nursing care incorporating the concepts taught in this course. Prerequisites: BIO 121 and NUR 170

NUR 181 - Mental Health Concepts ..... **(4:2:6)**
This mental health nursing course is designed to further develop the nurse's role as an entry-level healthcare provider. Concepts integral to the individual, nursing, and healthcare domains build on prior knowledge and are demonstrated through increasingly complex exemplars. New concepts relative to mental health are introduced. Emphasis is placed on concepts such as sexuality, grief and loss, cognition, behavior, development, self, violence, safety, health promotion and disease prevention, leadership, and ethical and legal standards. Classroom learning experiences are student-centered, incorporate active learning strategies, and enhance the student's ability to apply theory to practice. Clinical experiences emphasize the safe performance of nursing practice within a variety of healthcare settings. Upon completion of this course, students will be able to demonstrate the knowledge, skills, and attitudes essential to provide safe nursing care incorporating the concepts taught in this course. Prerequisites: BIO 121 and NUR 170

NUR 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

NUR 199 - Adv Credit/Practical Nursing .....
(18:LECTURE_HOURS:LAB_HOURS)
Advanced credit for approved practical nursing graduates, holding a current LPN license. Prerequisites: None

NUR 200 - Nursing Concepts III ..... **(4:2:6)**
This adult health nursing course is designed to further develop the

nurse's role as an entry-level healthcare provider and culminates in the graduate's ability to transition into practice as a professional nurse. Concepts integral to the individual, nursing, and healthcare domains build on prior knowledge and are demonstrated through increasingly complex exemplars. Emphasis is placed on the concepts of fluid and electrolytes, metabolism, increased intracranial pressure, oxygenation, perfusion, infection, violence, health promotion and disease prevention, evidence-based practice, leadership, safety, and patient-centered care. Classroom learning experiences are student-centered, incorporate active learning strategies, and enhance the student's ability to apply theory to practice. Clinical experiences emphasize the safe performance of nursing practice within the highly complex healthcare setting. Upon completion of this course, students will be able to synthesize conceptual knowledge, perform skills, and exhibit attitudes necessary to provide entry- level nursing care. Prerequisites: (BIO 125 concurrently or BIO 250) and NUR 180 and NUR 181 and PSY 127

NUR 201 - Maternal Child Health Concepts ..... **(4:2:6)**
This maternal child health nursing course is designed to further develop nurse's role as an entry level healthcare provider. Concepts integral to the individual, nursing, and healthcare domains build on prior knowledge and are demonstrated through increasingly complex exemplars. New concepts relative to maternal child health are introduced. Emphasis is placed on the concepts of oxygenation, perfusion, sexuality, reproduction, infection, development, family, health promotion and disease prevention, leadership, and patient-centered care. Classroom learning experiences are student-centered, incorporating active learning strategies that enhance the student's ability to apply theory to practice. Clinical experiences emphasize the safe performance of nursing practice within a variety of healthcare settings. Upon completion of this course, students will be able to demonstrate the knowledge, skills, and attitudes essential to provide safe nursing care by incorporating the concepts taught in this course. Prerequisites: (BIO 125 concurrently or BIO 250) and NUR 180 and NUR 181 and PSY 127

NUR 210 - Nursing Concepts IV ..... **(4:2:6)**
This adult health nursing course is designed to further develop the nurse's role as an entry-level healthcare provider and culminates in the graduate's ability to transition into practice as a professional nurse. Concepts integral to the individual, nursing, and healthcare domains build on prior knowledge and are demonstrated through increasingly complex exemplars. Emphasis is placed on the concepts of fluid and electrolytes, metabolism, increased intracranial pressure, oxygenation, perfusion, infection, violence, health promotion and disease prevention, evidence-based practice, leadership, safety, and patient- centered care. Classroom learning experiences are student- centered, incorporate active learning strategies, and enhance the student's ability to apply theory to practice. Clinical experiences emphasize the safe performance of nursing practice within the highly complex healthcare setting. Upon completion of this course, students will be able to synthesize conceptual knowledge, perform skills, and exhibit attitudes necessary to provide entry-level nursing care. Prerequisites: NUR 200 and NUR 201

NUR 211 - Community & Profess Concepts ..... **(4:2:6)**
This community and professional nursing course is designed to further develop the nurse's role as an entry-level healthcare provider and culminates in the graduate's ability to transition into practice as a professional nurse. Concepts integral to the individual, nursing, and healthcare domains build on prior knowledge and are demonstrated through increasingly complex exemplars. Emphasis is placed on the concepts of infection, sensory-perception, family, culture and diversity, violence, health promotion and disease prevention, spirit of inquiry, leadership, safety, ethical and legal standards, evidence based practice, quality improvement, and health policy. Classroom learning experiences are student-centered, incorporating active learning strategies that enhance the student's ability to apply theory to practice. Clinical experiences emphasize the safe performance of nursing practice within a variety of community healthcare settings. Upon completion of this course, students will be able to synthesize conceptual knowledge, perform skills, and exhibit attitudes necessary to provide entry-level nursing care. Prerequisites: NUR 200 and NUR 201

NUR 221 - Nursing Care of Adults I ..... **(3:2:3)**
This course develops the concepts and principles of nursing as it applies to the care of individuals with orthopedic and sensory conditions, complex nutritional problems, and inbalances of homeostasis. A clinical focus on teaching to empower patients taking into account individual diversity is emphasized. Prerequisites: BIO 121 and PSY 127 and (Test score or ENG 121 or ENG 125) and MAT 119 and ((NUR 121 and NUR 122 and NUR 123) or (NUR 123 and NUR 124 and NUR 125 and NUR 126) or (NUR 199)).

NUR 222 - Nursing Care of Adults II ..... **(3:2:3)**
This course develops the concepts and principles of nursing as it applies to the care of individuals with cardiovascular, respiratory, immunological, and neurological problems. A clinical focus on professionalism, encompassing the nurse's role in interdisciplinary collaboration, is emphasized. Prerequisites: BIO 121 and PSY 127 and (Test score or ENG 121 or ENG 125) and MAT 119 and ((NUR 121 and NUR 123 and NUR 122) or (NUR 123 and NUR 124 and NUR 125 and NUR 126) or (NUR 199)).

NUR 223 - Nursing Care of Adults III ..... **(3:2:3)**
This course develops the concepts and principles of nursing as it applies to the care of individuals with hematological and renal disorders and cancer. Content is also provided regarding nursing's role within the dynamic healthcare system. A clinical focus on the roles of the nurse as manager, care coordinator, advocate, collaborator, and researcher is emphasized. Prerequisites: BIO 121 and PSY 127 and (Test score or ENG 121 or ENG 125) and MAT 119 and ((NUR 121 and NUR 122 and NUR 123) or (NUR 123 and NUR 124 and NUR 125 and NUR 126) or (NUR 199)).

NUR 224 - Maternal Newborn Nursing ..... **(3:2:3)**
This course develops the concepts and principles of nursing as it applies to the care of maternal-newborn patients and families. The integration of basic genetic concepts and principles develops the importance of genetics in nursing theory and clinical practice. Prerequisites: (Test score or ENG 121 or ENG 125) and BIO 121 and PSY 127 and MAT 119 and ((NUR 121 and NUR 122 and NUR 123) or (NUR 123 and NUR 124 and NUR 125 and NUR 126) or (NUR 199)).

NUR 225 - Pediatric Nursing ..... **(3:2:3)**
This course develops the concepts and principles of nursing as it applies to the care of pediatric patients and families. The clinical focus is in the acute care setting and incorporates health promotion experiences. Prerequisites: (Test score or ENG 121 or ENG 125) and BIO 121 and PSY 127 and MAT 119 and ((NUR 121 and NUR 123 and NUR 122) or (NUR 123 and NUR 124 and NUR 125 and NUR126) or (NUR 199)).

NUR 226 - Mental Health Nursing ..... **(3:2:3)**
This course develops the concepts and principles of nursing as it applies to the care of patients with mental health issues. The clinical focus is in both inpatient and community settings with a focus on developing therapeutic communication skills. Prerequisites: (Test score or ENG 121 or ENG 125) and BIO 121 and PSY 127 and MAT 119 and ((NUR 121 and NUR 123 and NUR 122) or (NUR 123 and NUR 124 and NUR 125 and NUR 126) or (NUR 199)).

NUR 241 - Nursing Care III-A ..... **(5:2:9)**
Expands the nurse's roles as provider of care, manager of care and member within the discipline of nursing. Builds on previous theoretical knowledge and experience with the use of nursing process and critical thinking towards the implementation of safe nursing care. Learning experiences focus on caring for adults in a variety of health-care settings where the student functions as a member of the health-care team. Prerequisites: BIO 125 and NUR 143 and NUR 144 or NUR 199

NUR 242 - Nursing Care III-B ..... **(5:2:9)**
Expands the nurse's role as provider of care, manager of care and member within the discipline of nursing. Builds on previous theoretical knowledge and experience with the use of the nursing process and critical thinking towards the implementation of safe nursing care. Learning experiences stress appropriate communication techniques for effective interaction with individuals and families within a variety of settings including the community. Prerequisites: BIO 125 and NUR 143 and NUR 144

NUR 243 - Nursing Care IV-A ..... **(5:2:9)**
Emphasis on the nurse's role as an independent provider of care and manager of care for a group of clients and member within the discipline of nursing. Integrates theoretical knowledge, nursing process and critical thinking to demonstrate clinical competence. Learning experiences focus on managing care for a group of adults in a variety of health-care settings. Prerequisites: SOC 111 and NUR 241 and NUR 242.

NUR 244 - Nursing Care IV-B ..... **(5:2:9)**
Emphasis on the nurse's role as an independent provider of care and manager of care for a group of clients and member within the discipline of nursing. Integrates theoretical knowledge, nursing process and critical thinking to demonstrate clinical competence. Learning experiences focus on caring for the elderly and families throughout the life cycle within a variety of settings including the community. Prerequisites: SOC 111 and NUR 241 and NUR 242

NUR 271 - Nursing Care of Adults IV ..... **(5:2:9)**
This course examines the role of the professional nurse as a provider of care, manager of care and member within the discipline of nursing. Emphasis is on advanced theoretical knowledge required for clinical competence. Concepts of community health nursing are introduced. Synthesis of critical thinking and the nursing process is applied for the promotion, maintenance, and restoration of health when caring for adults in a variety of acute care and community settings. Prerequisite: NUR 173, NUR 174, NUR 175, NUR 176, NUR 177, or NUR 199; and BIO 120 and BIO 121 and PSY 127 and MAT 119 and ENG 121.

NUR 272 - Nursing Care of Adults V ..... **(5:2:9)**
This course interprets the role of the professional nurse as a provider of care, manager of care and member within the discipline of nursing. Emphasis is on advanced theoretical knowledge required for clinical competence. Community health nursing is integrated. Critical thinking and the nursing process are used in the evaluation of the effectiveness of the promotion, maintenance, and restoration of health when caring for adults in a variety of acute care and community settings. Prerequisites: NUR 271

NUR 274 - Community Mental Hlth Nursing ..... **(3:1:6)**
This course interprets the role of the professional nurse as a provider of care, manager of care and member within the discipline of nursing in the community mental health setting. Emphasis is placed on advanced theoretical knowledge required for clinical competence. Critical thinking and the nursing process are used in the evaluation of the promotion, maintenance, and restoration of health when caring for the client with alterations in mental health. Prerequisites: NUR 271

NUR 275 - Maternal/Newborn Nursing II ..... **(3:1:6)**
This course examines the role of the professional nurse as a provider of care, manager of care and member within the discipline of nursing in the maternal-newborn setting. Emphasis is placed on advanced theoretical knowledge required for clinical competence. Concepts of community health are introduced. Synthesis of critical thinking and the nursing process is applied in the promotion, maintenance, and restoration of health when caring for childbearing families and women across the reproductive life span. Prerequisite: NUR 173 and NUR 174 and NUR 175 and NUR 176 and NUR 177 or NUR 199; and BIO 120 and BIO 121 and ENG 121 and PSY 127 and MAT 119.

NUR 276 - Nursing Care of Children II ..... **(3:1:6)**
This course interprets the role of the professional nurse as a provider of care, manager of care and member within the discipline of nursing in pediatric settings. Emphasis is placed on advanced theoretical knowledge required for clinical competence. Community health nursing is integrated. Critical thinking and the nursing process are used in the evaluation of the effectiveness of the promotion, maintenance, and restoration of health when caring for children and their families. Prerequisites: NUR 271 and NUR 275.

NUR 277 - Nursing Perspectives II ..... **(1:1:0)**
This course enables assessment of the role of the professional nurse as it relates to the legal and ethical standards of nursing practice. Emphasis is placed on development of leadership and management skills as a member of the multi-disciplinary health care team. Focus is placed on integration of critical thinking skills in decision making within the health community. Prerequisites: (NUR 173 and NUR 174 and NUR 175 and NUR 176 and NUR177) or NUR 199.

NUR 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

OAT 010 - Business & Computer Skills ..... **(3:3:1)**
This course is designed to give the pre-tech student a survey of office careers and the keyboarding, filing, and proofreading skills needed for these jobs. Prerequisites: Test score or RDG 005 and Test score or ENG 005 and Test score or MAT 005

OAT 110 - Basic Keyboarding ..... **(2:2:1)**
A course designed to enable the student to master computer keyboarding skills Prerequisites: Test score or RDG 005 or RDG 051 or NCS 052 or ESL 032 or ESL 100 or RDG 120 and Test score or ENG 005 or ENG 051 or NCS 051 or ESL 034 or ESL 100 or ENG 121 or ENG 125 and Test score or MAT 005 or NCS 005 or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 135 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

OAT 121 - Keyboarding ..... **(4:3:2)**
This course develops touch control of the keyboard and proper keyboarding techniques and builds basic speed and accuracy. Students will use a word processing software to format letters, reports, tables, memos and related business communications. Prerequisites: Test score or ENG 005 or ENG 051 or NCS 051 or ESL 034 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 005 or RDG 051 or NCS 052 or ESL 032 or ESL 100 or RDG 120 and Test score or MAT 005 or NCS 005 or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 125 or MAT 130 or MAT 135 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 or MAT 185

OAT 122 - Keyboarding Applications ..... **(4:3:2)**
This course continues the development of keyboarding skills, speed-building, and accuracy. Students perform advanced word processing skills in the formatting of various tpes of business correspondence, reports, tables and electronic forms. Prerequisites: None

OAT 132 - Referencing and Transcription ..... **(3:3:1)**
Provides student with writing, referencing, proofreading and editing skills; integrated language skills while transcribing a variety of business documents. Prerequisites: OAT 121 or OFS 121 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120 and Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125

OAT 151 - Access Level I ..... **(3:2:2)**
This course will teach the fundamentals of Microsoft Access. Prerequisites: None

OAT 152 - Excel Level I ..... **(3:2:2)**
This course will teach the fundamentals of Microsoft Excel. Upon completion of this course, participants may be eligible to take the Microsoft Office Specialist Core level certification test in Excel. Prerequisites: None

OAT 154 - Access Level II ..... **(3:2:2)**
This course will teach the more advanced features of Microsoft Access. Upon completion of this course, participants may be eligible to take the Microsoft Office User Specialist (MOUS) Expert Level certification test in Access. Prerequisite: None

OAT 155 - Excel Level II ..... **(3:2:2)**
This course will teach the more advanced features of Microsoft Excel. Upon completion of this course, participants may be eligible to take the Microsoft Office User Specialist (MOUS) expert level certification in Excel. Prerequisite: None

OAT 157 - Word Level I ..... **(3:2:2)**
This course will teach the fundamental concepts of Microsoft Word. Upon completion of this course, participants may be eligible to take the Microsoft Office Specialist core-level certification in Word. Prerequisites: None

OAT 158 - Word Level II ..... **(3:2:2)**
This course will teach the more advanced concepts of Microsoft Word. Upon Completion of this course, participants may be eligible to take the Microsoft Office Specialist expert-level certification in Word. Prerequisite: OAT 157

OAT 159 - PowerPoint ..... **(3:2:2)**
This course will teach the components of Microsoft PowerPoint. Upon completion of this course, participants may be eligible to take the Microsoft Office User Specialist (MOUS) certification test in PowerPoint. Prerequisite: None

OAT 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

OAT 231 - Office Systems and Procedures ..... **(3:3:1)**
The topics of the course include imaging, processing mail, telecommunications, meetings and conferences, collecting, processing and presenting business data, and handling financial information. Emphasis is placed on work ethics and developing the professional image of an office employee. Prerequisite: (OAT 121 or OFS 121) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or ENG 051 or NCS 051 or ENG 099 or ESL 100 or ENG 121 or ENG 125).

OAT 240 - Integrated Business Applicatns ..... **(3:2:2)**
A capstone course designed to give the student an opportunity to demonstrate in-depth knowledge of word processing, data bases, spreadsheets and graphics, presentation software and other methods of multimedia communication. Prerequisites: (OAT 151 and OAT 152 and OAT 157) and (OAT 159 or OAT 156).

OAT 241 - Career Dev for Off Occupations ..... **(3:3:0)**
This course differentiates between a job and a career. The student learns effective methods for career-related decisions based on skills, values, and interests. The course utilizes the Internet to explore office occupations and job hunting. A Web Page will be created and posted. Teamwork and creativity are essential. Prerequisites: OAT 121 or OFS 121.

OAT 242 - Desktop Publishing ..... **(4:3:2)**
Provides an understanding of desktop publishing concepts using graphics software combined with text to produce professional business publications. Prerequisites: None

OAT 281 - Legal Research and Writing II ..... **(3:3:0)**
This course builds upon the competencies acquired in OAT 280 Legal Research & Writing. Students will gain additional experience and skill in critical analysis of legal issues, locating and evaluating appropriate legal authority, and the application of such authority to the resolution of hypothetical factual situations. Emphasis will also be placed on proper legal writing and citation. Prerequisite: OAT 280

OAT 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

OMT 100 - Operations Management ..... **(4:4:0)**
This course is designed to provide students with an introduction to the field of Operations Management. The course stresses design and management principles commonly used for the successful and efficient operation of an organization and its processes. Emphasis is placed on specific management functions and techniques such as demand forecasting, manpower and machine requirement determination, information planning, and producation and inventory controls including MRP, EOQ, Just-In-Time and Lean. The use of computer tools (Excel OM3) to solve Operations Management problems is introduced. Prerequisities: CIS 107 and (MAT 075 or MAT 153)

OMT 210 - Project Based Accounting ..... **(3:3:1)**
A study of internal accounting procedures employing the use of accounting data by management for planning, control and project decision making. Topics include accounting fundamentals and theory, cost behaviors, cost management and budgeting, revenue predictions, and altenative management decision making perspectives. Prerequisites: (Test scores or ENG 051) and (MAT 153 or MAT 181) and (OMT 100 or IET 242)

OMT 220 - Process Analysis & Control ..... **(3:3:1)**
A study of the processes by which products and services are created and delivered to customers with focus on the flow of products and services through a system. Emphasis is placed on three

measures of process efficiency and effectiveness: throughtput, flow time, and Iventory. By using a process flow method we provide a framework for analyzing, solving and controlling a wide range of business issues. Prerequisites: (Test scores or ENG 121 or ENG 125) and (MAT 255 or MAT 271) and (OMT 100 or IET 242)

OMT 230 - Project Management ..... **(3:2:2)**
The course is designed to introducte the subject and practical application of Project Management. Project Management is the applicaiton of knowledge, skills tools, and techniques to project activities to meet project requirements. Students learn the skills necesary to initiate, plan, execute, control and close small, medium, and large projects. The course combines theory, techniques, and applications of the subject material using a Project Management software applicaiton program. Prerequisites: (CIS 107 or IET 150 or FET 130) and (Test score or ENG 121 or ENG 125) and (MAT 153 or MAT 181)

OMT 240 - Supply Chain Management ..... **(3:3:1)**
This course focuses on the management of supply chain activities, including suppliers, transportation, materials handling, customer service standards, and production. The efficient integration of supply chain element to ensure the right products in the right quantities reach customers at the right time will be discussed. Topics will also include the strategic role of supply chain management, design and planning methods, and supply chain issues. Prerequisites: MIS 220 and (OMT 100 or IET 242) and (OMT 220 or IET 175).

OMT 250 - Statistical Process Control ..... **(3:3:1)**
The application of statistics and probability to basic quality control requirements found in organizational settings is the focus of this course. The course teaches the development and use of control charts, acceptance sampling, the use of SPC software, ISO 9000 and QS 9000 Standards, and total quality management practices. Prerequisites: (MAT 255 or MAT 271) and (CIS 107 or IET 150).

OMT 260 - Quality Management ..... **(4:4:LAB_HOURS)**
The implementation of modern quality management techniques is the focus of this course. The course provides historic and practical applications of quality methods such as continuous process improvement (CPI) and Six Sigma to contemporary processes such as Lean manufacturing. Prerequisites: (CIS 107 or IET 150) and (MAT 255 or MAT 271) and (OMT 210 or IET 204).

OMT 270 - Process Design & Layout ..... **(4:3:2)**
This course emphasizes the efficient and effective use of organizational layout and process designs as means to improve productivity, profitablility, and employee satisfaction. Students will learn how specific layout plan designs can produce a cost-efective, quality-oriented, environmentally safe, and aesthetically pleasing workplace to serve an organization's present and future needs. The course will also focus on maximizing productivity by efficient design of organizational processes while considering design elements such as space allowances, process/product change, human ergonomics, material handling, and equipment usage. Prerequisites: (MAT 255 or MAT 271) and (OMT 210 or IET 204) and (OMT 220 or IET 175) and (OMT 230 or IET 280).

OTA 110 - Intro To Occupational Therapy ..... **(3:3:1)**
This course provides an overview of the occupational therapy profession, including the history and philosophy of occupational therapy, the Occupational Therapy Practice Framework (OTPF), and the roles and responsibilities of the occupational therapy assistant. Prerequisites: BIO 120 Co-Requisite: OTA 120

OTA 120 - Activity Analysis ..... **(2:1:2)**
This course introduces the importance of purposeful activities. Emphasis is placed on activity analysis, incorporating the Occupational Therapy Practice Framework (OTPF). Pre-requisites: (Test Scores or ESL 100 or RDG 120) Co-Requisites: OTA 110

OTA 130 - Kinesiology for the OTA ..... **(2:1:2)**
This lecture/laboratory course is the study of joint motion and muscle function. Students learn to analyze functional movement involved in occupational performance. Pre-requisites: OTA 120 and BIO 123

OTA 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

OTA 220 - Pediatric Health Conditions ..... **(3:3:0)**
Provides information related to the study of conditions, diseases and dysfunctions common to individuals birth to 21 years of age, including Cerebral Palsy, Autism, Down Syndrome and other prevalent pediatric diagnoses. Prerequisites: OTA 110 and BIO 121 and PSY 127

OTA 221 - Adult & Geriatric Health Cond ..... **(3:3:0)**
Provides information related to the study of conditions, diseases and dysfunctions in the adult and geriatric populations, including i.e. CVA, Spinal Cord Injury, Orthopedic Conditions and other prevalent adult and geriatric diagnoses. Prerequisites: OTA 220

OTA 222 - Pediatric Intervention ..... **(4:3:3)**
Introduces evaluation and application of occupational therapy techniques in treating the pediatric population. Prerequisites: BIO 121 and OTA 110 and OTA 120.

OTA 223 - Adult & Geriatric Intervention ..... **(4:3:3)**
This course introduces evaluation and application of occupational therapy techniques in treating the adult and geriatric populations. Prererquisites: MAT 135, OTA 130 and OTA 222 Co-requisites: OTA 221 and OTA 224

OTA 224 - Psychosocial Intervention ..... **(4:4:1)**
This course introduces the theory and application of occupational therapy techniques with a focus on mental health and well-being. Skills are developed to facilitate group treatment in a variety of clinical settings. Prerequisites: OTA 120 and PSY 223 Co-requisites: OTA 221 and OTA 223

OTA 225 - Clinical Fieldwork Level I-A ..... **(2:1:5)**
This fieldwork experience provides exposure to pediatric and young adult populations and individuals with developmental disabilities across the lifespan served by occupational therapy. A seminar class provides additional exposure to roles and responsibilities of the certified occupational therapy assistant (COTA) and issues that impact service delivery across the lifespan. Students function as participating observers in the clinical setting with emphasis on the development of their professional behaviors. Pre-requisites: OTA 110

OTA 226 - Clinical Fieldwork Level I-B ..... **(2:1:5)**
This adult and geriatric fieldwork experience exposes students to individuals served by occupational therapy. Students function as participating observers in the clinical setting with emphasis on continued development of their professional behaviors. Prerequisites: OTA 225 Co-requisites: OTA 223

OTA 229 - Professional Seminar ..... **(1:1:0)**
Provides discussion and application of professional, ethical, legal, and multicultural aspects of occupational therapy as they relate to clinical experiences. Prerequisites: OTA 225 and (OTA 226 or OTA 226 concurrently)

OTA 231 - Clinical Fieldwork Level II-A ..... **(6:2:20)**
Clinical Fieldwork Level II-A provides supervised practical experience for the student to include: observing, treating, reporting, and recording occupational therapy evaluations and interventions for clients with various conditions. The student will experience treatment of individuals and groups across the life span and in a variety of treatment settings. Continued emphasis will be placed on the development of professional behaviors. A seminar class provides additional exposure to roles and responsibilities of the COTA, emerging practice areas, trends that impact service delivery across the lifespan, and preparation for the certification examination and entry into the workforce. Prerequisites: OTA 223 and OTA 224

OTA 232 - Clinical Fieldwork Level II-B ..... **(6:2:20)**
This Clinical Fieldwork Level II-B provides supervised practical experience for the student in include: observing, treating, reporting, and recording occupational therapy evaluations and interventions for clientss with various conditions. The student will experience treatment of individuals and groups across the life span and in a variety of treatment settings. This Cllinical Fieldwork Level II-B will be provided in a different clinical setting than OTA 231. A seminar class provides additional exposure to roles and responsibilities of the COTA, emerging practice areas, trends that impact service delivery across the lifespan, and preparation for the certification examination and entry into the workforce. Prerequisites: OTA 231

OTA 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

PHY 100 - Intro to Physics ..... **(3:2:2)**
This course is designed for students who need a basic introduction to principles of physics, especially in the career fields and other non-engineering disciplines. Emphasis is on a broad, general introduction to physics and day-to-day applications of the principles of physics. Prerequisites: Test score or MAT 012 and Test score or MAT 015 or MAT 016

PHY 110 - Physics Physical Therapy Assnt ..... **(4:3:2)**
A course in the basic concepts of physics used by the physical therapist assistant. Content includes heat, levers, frictions, electricity, and motion. Prerequisites: MAT 130

PHY 111 - Conceptual Physics ..... **(4:3:2)**
A basic course covering the concepts of physics with limited mathematical application. Prerequisites: Test score or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 135 or MAT 140 or MAT 141 or MAT 153 or MAT 181 or MAT 182 or MAT 185 or MAT 251 or MAT 261 or MAT 281.

PHY 112 - Physics for Allied Health ..... **(4:3:2)**
This is an introductory, algebra/trigonometry based course in physics with an emphasis on allied health applications. The major topics to be covered include motion, force, torque, energy, waves, electricity, and sound. Prerequisites: MAT 181

PHY 115 - Physics for Respiratory Care ..... **(4:3:2)**
A basic physics course that focuses on the content appropriate to the practice of respiratory therapy. Content includes emphasis on flow, gas laws, volume, and other related topics. Prerequisites: MAT 130

PHY 171 - Physics I ..... **(4:3:2)**
This laboratory-based physics course includes vectors, kinematics, dynamics, energy, momentum, gravitation, rotational motion and dynamics, equilibrium, and mechanical properties of matter. Prerequisites: MAT 181

PHY 172 - Physics II ..... **(4:3:2)**
This laboratory-based physics course includes fluids, harmonic motion, waves and sound, thermal properties of matter, heat, thermodynamics, light, lenses, and mirrors. Prerequisites: PHY 171

PHY 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

PHY 205 - General Physics I ..... **(4:3:3)**
This course is designed to introduce students to physics concepts and its applications to science and industry. Topics include vectors, one and two dimensional motion, work and energy, momentum, collisions, circular motion, gravity, rotational dynamics, mechanics of solids and fluids, fluids in motion, thermal physics, heat, and vibrations and waves. Prerequisites: MAT 181 or MAT 182 or MAT 185 or MAT 281

PHY 206 - General Physics II ..... **(4:3:3)**
This course is designed to introduce students to physics concepts and its applications to science and industry. Topics include sound, electric fields and electric forces, electric energy, potential and capacitance, current, resistance and DC circuits, RC circuits, magnetism and inductance, AC circuits and EM waves, sound, reflection and refraction, optics, and introductory modern physics. Prerequisites: PHY 205 and (MAT 182 or MAT 185 or MAT 281).

PHY 271 - Electricity and Magnetism ..... **(4:3:2)**
This laboratory-based physics course includes electricity, electric energy, electric current, magnetism, electromagnetic induction, alternating current, and modern physics. Prerequisite: MAT 182 and PHY 171 or ELC 120

PHY 281 - Physics I with Calculus ..... **(4:3:2)**
This calculus-based physics course includes vectors, kinematics, dynamics, energy, momentum, gravitation, rotational motion and dynamics, equilibrium, and mechanical properties of matter. Prerequisites: MAT 281

PHY 282 - Physics II with Calculus ..... **(4:3:2)**
This calculus-based physics course includes electric fields, electric forces, electrical energy, capacitance, electric current, magnestism, electromagnetic induction, alternating current, and electromagnetic waves. It is recommended to take Calculus (MAT 283) simultaneously. Prerequisites: MAT 282 and PHY 281

PHY 284 - Oscillation and Waves ..... **(4:3:2)**
This course builds on the concepts introduced in PHY 281 (Physics I with Calculus) with strong emphasis on oscillation and waves. Continuum physics, with elements of elasticity theory and fluid mechanics along with oscillations and resonance phenomena in both mechanical systems and electrical circuits is introduced. Wave

propagation, interference, diffraction, and dispersion are covered in depth. Advanced labs accompany the curriculum throughout the course. Prerequisites: (MAT 281 or MAT 282 or MAT 283) and PHY 281

PHY 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

PLG 160 - Family Law ..... **(3:3:0)**
This course studies the basic legal principles of marriage, divorce, support, adoption, juvenile law, and parent/child relationships, with an emphasis on drafting legal documents. Prerequisites: Test Scores or ENG 090 or ENG 091 or higher.

PLG 170 - Intro to the Legal System ..... **(3:3:0)**
This course provides a perspective of the legal system and specific knowledge of the present and potential role of the legal assistant within the system. Prerequisistes: (Test Scores or ENG 006 or ENG 007 or higher) and (Test Score or MAT 005 or higher).

PLG 172 - Law of Simple Contracts ..... **(3:3:0)**
This course covers the negotiation and creation of agreements that legally bind parties in business arrangements with special emphasis on negotiations, offers, acceptance of offers, terms, and the conditions and circumstances under which contracts are made or broken. Prerequisites: Test Scores or ENG 090 or ENG 091 or higher.

PLG 175 - Estate Admin and Probate ..... **(3:3:0)**
This course discusses basic legal concepts of wills, trusts, and intestacy. Topics include the fundamental principles of law, along with the organization and jurisdiction of the probate court. An analysis of estate administration procedures and instruction in the preparation of estate and fiduciary and tax forms is also discussed. Prerequisites: (Test Score or MAT 012 or higher) and (Test Scores or ENG 090 or ENG 091 or higher)

PLG 270 - Criminal Law/Invest Procedures ..... **(3:3:0)**
This course introduces substantive criminal law and procedures including elements of certain crimes, arrests, indictments, trial, and post-conviction proceedings. Investigative techniques are also covered. The role of the legal assistant is explored. Prerequisites: (Test Scores or ENG 090 or ENG 091 or higher) and (Test Score or MAT 005 or higher)

PLG 271 - Real Property Law ..... **(3:3:0)**
This course introduces the basic concepts of the law of real property. Purchases and sales agreements, options, easements, deeds, title searches, closing procedures, foreclosures, evictions, condominiums and zoning are covered. Prerequisites: (Test Scores or ENG 090 or ENG 091 or higher) and (Test Score or MAT 012 or higher)

PLG 273 - Civil Procedure ..... **(3:3:0)**
This course introduces the process of civil litigation, as well as interviewing and investigative skills. The course also includes drafting pleadings and discovery. Prerequisites: (Test Scores or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test Scores or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120)

PLG 274 - Torts ..... **(3:3:0)**
The course includes the substantive law of torts and insurance, in addition to case investigations. Prerequisites: Test Scores or ENG 090 or ENG 091 or higher

PLG 276 - Business Entities ..... **(3:3:0)**
This course studies laws of the Uniform Commercial Code and follows those laws to draw up articles of incorporation, minutes, by-laws, and other corporate documents pertaining to partnership agreements, promissory notes, security agreements, and sales contracts. Prerequisites: (Test Scores or ENG 090 or ENG 091 or higher) and (Test Scores or MAT 005 or higher)

PLG 280 - Legal Research & Writing ..... **(3:2:2)**
This course introduces the books in the law library used to find and interpret statutes, case law, and administrative regulations. Students use digests, citators, and secondary legal sources. Emphasis is on writing interoffice memoranda and other legal documents. Prerequisites: (Test Scores or ENG 090 or ENG 091 or higher) and OAT 121 and OAT 170

PLG 285 - Law Office Mgmt & Procedures ..... **(3:2:2)**
This course studies all phases of law office procedures and the management and organization of a law office, the various software used, and filing principles. Development and usage of systemization within the law office are emphasized. Principles and legal theory are demostrated through practical application. Prerequisites: (Test Scores or ENG 090 or ENG 091 or higher) and PLG 170

PLG 290 - Paralegal Internship ..... **(4:0:12)**
This course provides training in the legal environment and includes oversight by an advisor. Prerequisite: Department approval

POL 111 - Political Science ..... **(3:3:0)**
This course focuses on the organization and operation of government at the various levels emphasizing involvement in the democratic process. The major purpose of the course is to provide the student with a working understanding of the structure and functioning of the formal political system on the local, state, national and international levels. The course is also designed to foster student involvement in the political process and to assist the student's clarification of his/her personal political value system. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120

POL 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

POL 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

POS 101 - Intro to Poultry Science ..... **(3:2:2)**
An overview of the broiler/poultry industries. General introduction to hatching egg production, genetics, hatchery operation, feed production, growing, processing, marketing, and economics. Prerequisite: Test score or RDG 005

POS 103 - Poultry Biology ..... **(3:2:2)**
Students study the anatomy and physiology of the chicken with emphasis on reproduction, growth, and embryology. Prerequisites: Test score or RDG 005 and Test score or ENG 005

POS 105 - Broiler Management ..... **(3:2:2)**
This course presents the principles of husbandry in growing broiler and breeding stock from chick to market age. Topics

include housing, feeding, ventilation, and equipment. Prerequisites: Test score or RDG 005 and Test score or MAT 005

POS 107 - Feed/Grain Handling .....**(3:3:0)**
This course acquaints students with materials, handling, processing, and weighing requirements of grain receiving and storage, and feed manufacturing. Maintenance, design, and construction are included. Includes state and U.S.D.A. regulation for feed production and safety requirements. Prerequisites: Test score or RDG 005 and Test score or MAT 005

POS 109 - Poultry Marketing .....**(3:3:0)**
This course presents poultry marketing fundamentals and discusses the economics of interrelationships of competitive meats, merchandising techniques, advertising, and packaging. Prerequisites: Test score or RDG 005 and Test score or MAT 005 and Test score or ENG 005

POS 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

POS 201 - Breeder & Hatchery Management.....**(3:3:0)**
Students learn to manage breeder flocks and hatchery operations. The course presents egg handling and storage, hatchery sanitation, and waste control. Prerequisites: Test score or RDG 005 and Test score or MAT 005 and Test score or ENG 005

POS 203 - Applied Poultry Nutrition .....**(3:3:0)**
Students learn the fundamentals of poultry nutrition and nutrient requirements for growth, maintenance, and reproduction. Students use computers for least-cost feed formulation. Prerequisites: Test score or RDG 005 and Test score or MAT 005

POS 205 - Poultry Processing.....**(3:3:0)**
Students learn fundamentals of poultry processing from receiving to shipping, including designing and operating equipment, packaging, sanitizing, using labor, complying with state and federal regulations, grading poultry, and controlling quality, Prerequisites: Test score or RDG 005 and Test score or MAT 005 and Test score or ENG 005

POS 208 - Poultry Health & Diseases.....**(3:3:0)**
Students learn fundamentals of poultry health and disease through a detailed study of the major diseases affecting poultry. The course stresses factors relating to health - causes of diseases, defense mechanisms, immunology, nutrition, and environment. Prerequisites: Test score or RDG 051 and Test score or ENG 005 and Test score or MAT 005 and POS 103

POS 210 - Supervised Internship.....**(5:0:16)**
Opportunities are provided to pursue, under staff supervision, work experience in a specialized field of the poultry industry. Periodic conferences are held with each student and his/her work supervisor. Prerequisites: Test Score or RDG 051 and Test Score or ENG 051 and Test Score or MAT 012 and POS 101 and POS 105 and POS 205

POS 215 - Poultry Production Management .....**(3:2:2)**
An overview of the broiler/poultry industries. Students will receive a general introduction to poultry anatomy and physiology as it relates to disease in the industry. Principles of poultry housing management and environmental issues will be discussed. Prerequisites: Test scores or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test scores or RDG 051 or ESL 100 or RDG 120 and AGS 102

POS 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

PSY 100 - Human Relations .....**(3:3:0)**
The course is designed as an entry-level exposure for students to the vast world of the social/behavior sciences. This course will have a multi-focus approach. Human relations will provide insight to promote a desire and a method of establishing meaningful human relationships, to help the student realize that positive intra and interpersonal relations will enrich his daily life as a human being and as a worker. Prerequisites: Test score or RDG 005 or RDG 051 or NCS 052 or ESL 100 or RDG 120

PSY 121 - General Psychology .....**(3:3:0)**
This course is a survey of general principles underlying human behavior and mental processes. It includes study of the nervous system, perception, learning, motivation, personality, and psychological disorders. Methods of assessment and research principles are discussed. Prerequisites: (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120).

PSY 122 - Social Psychology.....**(3:3:0)**
A study of the impact social institutions have on the behavior of the individual. Social psychology deals with how we perceive other people in social situations, how we respond to others and how they respond to us and the systematic study of social behavior. Prerequisite: PSY 121

PSY 123 - Industrial Psychology.....**(3:3:0)**
Industrial (Organizational Psychology) provides an overview of the sociopsychological processes specific to formal organizations by emphasizing the interrelationships among individuals, groups and the organizational structure. Behavioral dynamics is the human resource focus that includes attitudes, communication, motivation, stress, teamwork, conflict resolution, diversity, and gender issues. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120

PSY 125 - Child Development.....**(3:3:0)**
This course is designed to assist students in their understanding of basic concepts relevant to child development. Emphasis will be placed upon physical, cognitive, emotional, and social development during childhood. The interrelationship of these factors will also be discussed and evaluated. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120

PSY 126 - Child/Adolescent Development.....**(3:3:0)**
Introduction to the processes of physical, cognitive, emotional, and social development during childhood and adolescence. Prerequisites: PSY 121

PSY 127 - Human Development.....**(3:3:0)**
A life-span approach to human development through examination of the physical, cognitive, psychological and social processes and tasks associated with each stage in the life cycle. Emphasis will be placed on assessment of needs and common health problems as viewed in a developmental context. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100 or RDG 120

PSY 130 - Mentoring: Psych of Helping ..... **(3:3:0)**
This course is designed to develop the awareness and skills necessary to mentor a targeted population of proteges. Emphasis will be placed on learning the fundamentals of mentoring and mentoring programs, understanding developmentally at-risk patterns within the target population, and both didactic and experiential components. Prerequisites: Test score or ENG 051 and Test score or RDG 051

PSY 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

PSY 219 - Organizational Behavior ..... **(3:3:0)**
Addresses individual and group behavior within organizations, helping students better understand their own motivation and style of work so that they may interact with and manage others more effectively. Students consider how personality, motivation, communication, power, conflict, organizational culture and other influences affect productivity and job satisfaction. Through interactive class discussions, case studies and projects, the class examines research findings, real world situations, and relevant theories. Prerequisites: BUS 101 and MGT 212 and (Test score or ENG 121 or ENG 125).

PSY 223 - Abnormal Psychology ..... **(3:3:0)**
An introduction to the causes, characteristics, and treatments of various categories of abnormal behavior. The student will examine and comprehend the diversity of factors surrounding maladaptive behavior including: historical views, classification of abnormal disorders, physical and psychological symptoms, and available treatments. Prerequisites: PSY 121

PSY 224 - Human Sexuality ..... **(3:3:0)**
The basic biology of sexuality, including the psychology and sociology of human sexuality. The course focuses on behavior patterns, emotions, and socio-cultural factors affecting interpersonal relationships. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 051 or NCS 052 or ESL 100or RDG 120

PSY 230 - Mentor Practicum ..... **(2:1:4)**
The mentor is placed in a designated school/agency and matches with a preselected protege. Emphasis is placed on activity and effectively mentoring the protege for a predetermined, minimum number of hours per week. Mentors will be responsible to the agency as well as the college and will be supervised by the project director and/ or student coordinator of the program. Prerequisites: PSY 130

PSY 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

PTA 100 - Introduction to PTA ..... **(2:2:1)**
An introduction to the profession of physical therapy including history, role utilization, professional organization, standards and ethics of practice. Basic patient care procedures, including CPR certification and documentation are covered. Prerequisites: BIO 120

PTA 101 - Basic Techniques ..... **(4:2:5)**
The theory and skill development in body mechanics, transfers, and gait training, assessment techniques, therapeutic exercise, and massage. This course utilizes didactic, laboratory, and clinical experiences. Prerequisites: PTA 100

PTA 102 - Modalities ..... **(3:2:4)**
The theory and skill development in modalities, electrical stimulation, pain management, and wound care. This course utilizes didactic, laboratory, and clinical experience. Prerequisites: PTA 100

PTA 115 - Kinesiology ..... **(3:2:2)**
The study of the relationship between the muscular and skeletal systems acting to provide motion through the biomechanical leverage system. Prerequisites: (PHY 110 or PHY 112 or PHY 205 or PHY 171) and PTA 100.

PTA 116 - Intro to Pathology ..... **(3:3:0)**
A basic introduction to diseases, including process and influence on the anatomical and physiologic activity of the body. Implications of these diseases in physical therapy will be discussed. Prerequisites: BIO 121 Co-requisites: PTA 101

PTA 118 - Functional Anatomy&Kinesiology ..... **(5:4:2)**
This course is an in-depth study of the muscular, skeletal, nervous, and ligamentary systems of humans, focusing on the structure and function associated with various physical therapy techniques. The relationship between the muscular and skeletal systems as they provide motion through the biomechanical leverage system will also be studied. Prerequisites: BIO 121 and (PHY 110 or PHY 205 or PHY 112 or PHY 171). Co-requisite: PTA 101

PTA 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

PTA 205 - Path.Treatmnt Orthopedic Conds ..... **(4:3:3)**
A study of orthopedic conditions and their underlying pathology. Emphasis on physical therapy interventions of these conditions. Prerequisites: PTA 101 and PTA 102 and PTA 116.

PTA 206 - Path/Treat Neurolgcl Conds. ..... **(4:3:3)**
The study of the neurologically and developmentally involved patient including positioning, handling, and facilitation of normal motor control through specialized therapeutic interventions. Prerequisites: PTA 101 and PTA 102 and PTA 116

PTA 208 - Special Topics for the PTA ..... **(3:3:0.5)**
This course introduces specialized topics in the profession of physical therapy, including but not limited to women's health, architectural barriers, acquired immunodeficiency syndrome (AIDS) rehabilitation, home healthcare, nontraditional therapies, cardiopulmonary rehabilitation, seating, and industrial rehabilitation. Prerequisites: PTA 205 and PTA 206 and PTA 211

PTA 209 - PTA Management Issues ..... **(2:2:0)**
An overview of non-patient care related topics and their influence on the clinical practice of the PTA. Prerequisites: PTA 205 and PTA 206 and PTA 211.

PTA 211 - Clinical Practice I ..... **(4:1:13)**
The initial comprehensive clinical experience in a physical therapy setting for application of learned clinical skills on patients under the supervision of a licensed physical therapist. Prerequisite: None; Co-requisite: PTA 205 and PTA 206

PTA 212 - Clinical Practice II ..... **(3:0:13)**
A five-week, full-time clinical experience in a physical therapy

setting for learned clinical skills practiced in PTA 211, and a continuation of application of newly learned interventions, under the supervision of a licensed physical therapist or physical therapist assistant. Prerequisites: PTA 211

PTA 213 - Clinical Practice III ..... **(4:0:18)**
A seven-week, full-time clinical experience in a physical therapy setting for refinement of previously learned skills and continuation of application of techniques and procedures, under the supervision of a licensed physical therapist. Prerequisite: PTA 208 and PTA 209 and PTA 212

PTA 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

PUB 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

RAD 100 - Hospital Orientation ..... **(1.5:1.5:1.5)**
This course introduces the student to the field of radiologic technology, to the hospital environment, and to student responsibilities. Students are oriented to academic and administrative structure, key departments and personnel, and to the profession as a whole. Basic principles of radiography, radiation protection, and other pertinent safety issues are introduced. Prerequisites: None

RAD 105 - Intro Patient Care/Radiography ..... **(3:2:2)**
This course provides the radiography student with in-depth patient care knowledge and skills necessary in the performance of radiographic procedures on all patient populations. An introduction to the field of radiologic technology and radiation protection is included. Prequisites: None

RAD 130 - Radiographic Procedures I ..... **(4:3:3)**
This course will provide the student with the skill necessary to perform standard radiographic procedures to include chest, abdomen,upper extremities, lower extremities, UGI, small bowel, and barium enema. Optimal radiographic production, contrast administration, and anatomy identification are supported by energized laboratory experience. Prerequisites: RAD 100

RAD 131 - Radiographic Procedures II ..... **(4:3:3)**
This course is designed to provide the student with the knowledge necessary to perform spine, bony thorax, portable radiography, trauma procedures, OR/Image intensification, urinary and biliary procedures. Optimal radiographic production, contrast administration, and anatomy identification are supported by energized laboratory experience. Prerequisites: RAD 130

RAD 140 - Prin Radiographic Imaging I ..... **(3:3:0)**
This course provides the student with an overview of radiographic principles that include radiographic physics, x-ray production, interactions with matter and scatter radiation control relative to basic imaging. Prerequisite: RAD 105 and (MAT 153 or MAT 153 <concurrent>) Co-requisite: None

RAD 141 - Prin Radiographic Imaging II ..... **(3:3:0)**
This course provides the student with an in-depth knowledge of radiographic principles that include image quality factors, anatomic/pathologic variances, exposure systems and image acquisition methods. Prerequisite: RAD 140

RAD 150 - Radiation Protection/Biology ..... **(2:2:0)**
This course provides the student with an overview of the principles of radiation protection for the radiographer, patients, other personnel, and the public. Radiation effects on biological molecules and organisms and factors affecting biological response are also presented. Prerequisites: RAD 120 and BIO 120.

RAD 160 - Clinical Radiography I ..... **(3:0:16)**
This course is the first in a series which provides the student with exposure to the practice of radiography. This clinical education course takes place in various radiology departments. The student develops and refines skills in patient management, equipment manipulation, positioning, technique manipulation, and film evaluation. Prerequisites: MAT 153 or MAT 130 and BIO 120 or RAD 100.

RAD 161 - Clinical Radiography II ..... **(3:0:16)**
This course is the second in a series which provides the student with exposure to the practice of radiography. This clinical education course takes place in various radiology departments. The student develops and refines skills in patient management, equipment manipulation, positioning, technique manipulation and film evaluation. Prerequisites: RAD 160

RAD 162 - Clinical Radiography III ..... **(5:0:24)**
This clinical course continues to provide the student with exposure to the practice of radiography and takes place in various diagnostic imaging departments. The student develops and refines skills in patient management, equipment manipulation, positioning, technical factors selection, and image evaluation. Prerequisites: RAD 161 anb BIO 121

RAD 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

RAD 222 - Selected Topics in Radiography ..... **(3:3:0)**
This course is an overview for the radiologic technology student. It helps the student assess his/her understanding of the major subject areas in radiologic technology, recognize deficient areas of knowledge and prepare for the American Registry Examination for Radiologic Technologists (A.R.R.T.). Prerequisites: RAD 260

RAD 230 - Radiographic Procedures III ..... **(3:2:2)**
This course is designed to provide the student with the knowledge necessary to perform skull, facial bones, arthrography, myelography, sialography, venography, mammography, hysterosalpingogram, pelvimetry/fetogram, bronchogram, lymphangiogram, and dacryocystography. Optimal radiographic production, contrast administration, and anatomy identification are supported by energized laboratory experience. Prerequisites: RAD 131

RAD 240 - Radiographic Imaging Equipment ..... **(3:3:0)**
This course provides the student with knowledge of equipment routinely utilized to produce diagnostic images. This includes x-ray generating equipment, various recording media and techniques, and other imaging modalities and equipment. Computer application in radiology is also discussed. Prerequisites: RAD 141

RAD 250 - Radiographic Pathology ..... **(2:2:0)**
This course provides the student with an introduction to the concepts of disease. Pathology as it relates to various radiographic procedures is discussed. Prerequisites: RAD 260 and BIO 121

RAD 260 - Clinical Radiography IV ..... **(5:0:24)**
This course is the fourth in a series which provides the student with exposure to the practice of radiography. This clinical education course takes place in various radiology departments. The student develops and refines skills in patient management, equipment manipulation, positioning, technique manipulation and film evaluation. Prerequisites: RAD 162

RAD 261 - Clinical Radiography V..... **(5:0:24)**
This course is the fifth in a series which provides the student with exposure to the practice of radiography. This clinical education course takes place in various radiology departments. The student develops and refines skills in patient management, equipment manipulation, positioning, technique manipulation and film evaluation. Prerequisites: RAD 260

RAD 262 - Clinical Radiography VI ..... **(3:0:15)**
This course is the final unit which provides the student with the necessary exposure to the practice of radiography. This clinical education course takes place in various radiology departments. The student develops and refines skills in patient management, equipment manipulation, positioning, technique manipulation and film evaluation. Prerequisites: RAD 261

RAD 270 - Digital Image Acquistn/Display ..... **(2:2:0)**
This course provides the student with an in-depth knowledge of the principles of digital imaging. Image acquisition, characteristics, display and quality assurance are presented. The basic principles of Computer Tomography (CT) are also discussed. Prerequisites: RAD 240

RAD 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

RCT 120 - Pharm for Respiratory Care..... **(3:3:0)**
This course is designed to prepare students with a basic understanding of pharmacological principles and therapeutic applications with relationship to healthcare practice. Special emphasis will be placed upon therapeutic agents used in respiratory care. Prerequisites: BIO 120 and CHM 110 and MAT 153 and (Test score or RDG 120).

RCT 130 - Intro to Respiratory Care ..... **(7:6:2)**
Course is designed to introduce the student to the delivery of respiratory care. Emphasis is placed on principles of gas flow, pressure regulation, production, and storage. Also addressed will be the theory, equipment, and procedures of oxygen therapy. Pre-requisites: MAT 153 or MAT 130 and RDG 120

RCT 140 - Pulmonary Physiology ..... **(3:3:0)**
This course addresses normal structure and function of the human respiratory system. Included are mechanics of breathng, gas exchange and transport, acid-base balance, and control of ventilation. Pre-requisites: CHM 110 and BIO 120 and MAT 130 or MAT 153

RCT 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

RCT 210 - Neonatal/Ped Respiratory Care ..... **(3:3:0)**
Course is designed to further the student's understanding of neonatal and pediatric disease and effective delivery of respiratory care to these patients. Prerequisites: RCT 231 Co-requisites: RCT 232 and RCT 252

RCT 231 - Respiratory Care Procedures I..... **(4:3:2)**
Course is designed to give the student knowledge necessary to effectively administer basic respiratory care modalities. Included are positive pressure breathing, SMI, chest physical therapy, aerosolized medications, and bedside pulmonary function testing. Prerequisites: RCT 130 Co-requisites: RCT 251

RCT 232 - Respiratory Care Procedures II..... **(7:6:3)**
This course is a continuation of RCT 231 Respiratory Care Procedure I. It is designed to provide knowledge of and rationale for more advanced respiratory care techniques, such as those associated with artificial airways and mechanical ventilation. Prerequisites: RCT 231 Co-requisites: RCT 210 and RCT 252

RCT 233 - Spec Topics in Respratory Care..... **(4:4:0)**
This course provides the student with knowledge of advanced concepts in respiratory care associated with support of the critically ill patient. Prerequisites: RCT 232 Co-requisites: RCT 253

RCT 241 - Pulmonary Pathophysiology I..... **(3:3:0)**
Pulmonary Pathophysiology I will introduce the student to evaluation of the patient with pulmonary disease. This will include signs and symptoms, physical assessment, chest radiography, pulmonary function, and pertinent laboratory tests. Also addressed will be obstructive lung diseases. Assessment and decision for care are emphasized. Prerequisites: RCT 140 and BIO 121

RCT 242 - Pulmonary Pathophysiology II ..... **(4:4:0)**
Pulmonary Pathophysiology II introduces the student to patterns of restrictive lung disease. Topics include pneumonias, fibrotic lung disease, pulmonary neoplasms, disorders of pulmonary circulation, diseases of the pleura and thoracic wall, neuromuscular diseases, aspiration, trauma, and ards. Prerequisites: RCT 241

RCT 243 - Pulmonary Function Studies ..... **(2:1:3)**
This course covers pulmonary function and exercise testing with an emphasis on interpretation and clinical application. Prerequisite: RCT 140

RCT 244 - Cardiopulmonary Assessment..... **(5:3:6)**
This course covers both diagnostic and rehabilitative theory and technique including Advanced Cardiac Life Support Certification, ABG equipment, pulmonary function studies, EKG studies, exercise testing, hemodynamics, chest x-rays/scans, fiberoptic brochoscopy, and pulmonary rehabilitation. Emphasis is placed on clinical application and interpretation. Prerequisites: RCT 210 and RCT 232 and RCT 242. Co-requisite: RCT 253

RCT 251 - Clinical Respiratory Care I ..... **(2:0:8)**
This course applies respiratory care techniques in a patient care setting. Topics include application of infection control, patient assessment, oxygen therapy, bronchial hygiene, aerosol therapy, and professional communication. Prerequisites: RCT 130 and (Test Score or RDG 120) and (Test Score or ENG 121) or (Test Score or ENG 102 or ENG 122).

RCT 252 - Clinical Respiratory Care II ..... **(3:0:16)**
This course is a continuation of RCT 251 Clinical Respiratory Care I. The student will, under supervision, apply more advanced respiratory care modalities, such as bronchial hygiene techniques, as well as care of patients with artificial airways and introduction to mechanical ventilation. Prerequisites: RCT 251 Co-requisites: RCT 210 and RCT 232

RCT 253 - Clinical Respiratory Care III..... **(5:0:24)**
This course is designed to provide the student with practice in

all aspects of respiratory care. It is an advanced course with emphasis on care of the critically ill adult, pediatric, and neonatal patient in a variety of settings. Prerequisites: RCT 252

RCT 289 - Approved Technical Elective..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

RDG 005 - Basic Reading.....**(4:4:0)**
A developmental course designed to improve vocabulary and comprehension skills. Additional resources are available for skill enhancement. Prerequisites: None

RDG 051 - Pre-Tech Reading.....**(4:4:0)**
A review course designed to improve vocabulary and comprehension skills and to increase reading flexibility. Additional resources are available for skill enhancement. Prerequisites: Test score or RDG 005 or ENG 006 or NCS 052 or ESL 100 or RDG 120.

RDG 120 - Critical Reading & Thinking.....**(3:3:0)**
A college-level course designed to improve study skill efficiency, reading comprehension, vocabulary, critical reading and thinking. Additional resources are available for skill enhancement. Prerequisites: (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100) and (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125).

RDG 189 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

RDG 289 - Approved Technical Elective ..... **(3:LECTURE_HOURS:LAB_HOURS)**
Students may complete technical electives for which they have written prior approval of the department chairperson.

SCI 100 - Environmental Monitoring Techn..... **(1:LECTURE_HOURS:2.5)**
Students will be introduced to hands-on field and laboratory techniques in biology, biotechnology and chemistry to monitor the environment. Prerequisites: (Test scores or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test scores or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test scores or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 182).

SCI 101 - The World: An Owner's Manual . **(2:2:LAB_HOURS)**
Scientific literacy is important to understand how the world and society works. This course explores important issues of the day such as global climate change, drug-resistant bacteria, global information systems, and invasive species. Basic concepts in earth science, human health and technology will be discussed. Prerequisites: (Test scores or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test scores or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120).

SCI 112 - Science Crs Success Strategies.....**(1:1:0)**
This class is designed to improve learning and comprehension in the science courses that precede major classes. Student success, learning styles, time management, problem solving, and effective study skills will be covered. Prerequisites: (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125)

SCI 130 - Introduction to Research..... **(2:2:LAB_HOURS)**
Research is integral to many fields of study. This course investigates the components of a research project including scientific principles, prjoect design, documentation, communication, and professional ethics and behavior. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test scores or MAT 012 or NCS 012 or MAT 015 or NCW 045 or MAT 075 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181 and Test scores or RDG 051 or NCS 052 or ESL 100 or RDG 120.

SCI 141 - Nutrition in the Culinary Fld.....**(2:2:0)**
This course, which is designed for students in the culinary or food service management field, covers the basic principles that apply to the connection between good nutrition and healthy menu planning and development. Prerequisites: (Test Score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test Score or MAT 012 or NCS 012 or MAT 015 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181) and (Test Score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120).

SCI 206 - Pesticide Principles and Apps.....**(3:3:0)**
This course examines the principles of insects, weed and disease control in agricultural crops, horticultural plants and turf, integrated pest management, economics and safety. Prerequisites: (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 012 or NCS 012 or MAT 015 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181) and AGS 105.

SCI 223 - Applied Ecology.....**(3:3:0)**
This course offers an exploration of the ecology of plant form, function, abundance and diversity. Topics include plant adaptations to environmental conditions, life history variation, competitions, and mid-Atlantic native plant distribution. Prerequisites: (Test score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120) and (Test score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test score or MAT 012 or NCS 012 or MAT 015 or MAT 090 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181)

SCI 230 - Research Methodology.....**(3:2:3)**
To successfully conduct undergraduate research, students require an in-depth knowledge of the scientific process. This class investigates experimental design, data collection, statistical analysis, scientific integrity, and communication within the context of ongoing research projects. Prerequisites: (NCJ 130 or SCI 130) and (Test score or RDG 120) and (Test score or MAT 075 or MAT 090 or MAT 140 or MAT 153 or MAT 181 or MAT 185) and (BIO 150 or CHM 150 or PHY 171 or PHY 281).

SCI 240 - Turfgrass Physiology.....**(3:2:2)**
This course is an introduction to the science of turf grasses. Students will develop an understanding of turf grass growth, development, and adaption, cultural practices used to manage turf grasses, pest problems, and establishment methods. Students will be exposed to the various grasses used in turf grass management. Topics covered will be identification, growth and development, seasonal grasses, turf grass environment and an overview of cultural practices will be discussed. Prerequisites: AGS 101 and AGS 105

SGT 100 - Intro to Surgical Technology ..... **(2:2:0)**
An introduction to surgical technology focusing on selected aspects in the development of surgical technology as a technical profession. Topics include professionalism, communication, biomedical science, the biopsychocial needs of the surgical patient, ethical/legal issues specific to the perioperative setting, patient, and work place safety. Prerequisite: Test Score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120

SGT 200 - Surgical Technology I ..... **(7:4:8)**
This course highlights the basic knowldege and fundamental techniques necessary for assuming the responsibilities of a surgical technologist. Preoperative and intraoperative patient care concepts, with both non-sterile and sterile responsibilities, are emphasized. This course also introduces skill development related to intrumentation, equipment, patient transportation, surgical positioning, and preoperative patient preparation. Prerequisites: BIO 100, BIO 121, BIO 125, CIS 107, ENG 102, (MAT 130 or MAT 140 or MAT 119 or MAT 129), SGT 100 Corequisite: SGT 202

SGT 202 - Pharmacology..... **(2:2:0)**
This course will provide students with foundation in pharmacology. This will prepare the student to safely and appropriately prepare and manage operating room medications and solutions. Prerequisites: BIO 121 and BIO 125 and SGT 100.

SGT 210 - Surgical Technology II ..... **(7:4:10)**
This course will review the surgical specialties and focus on the diagnostic and surgical interventions and complications. Knowledge and skills for effective performance as a scrubbed member of the operating room team are reinforced. Focus is placed on the responsibilities of the surgical technician in intraoperative case management during intermediate surgical interventions. Prerequisites: SGT 200 and SGT 202. Corequisite: SGT 211

SGT 211 - Surgical Tech Clinical I ..... **(2:0:9)**
This course will be clinical rotations in the operating room of affiliated healthcare institutions. Knowledge and techniques essential to effective performance as a scrubbed member of the surgical team will be stressed as the student develops and improves skills as the scrub person. Progression to solo scrub experience is expected. Prerequisites: SGT 200 and SGT 201. Corequisite: SGT 210

SGT 220 - Surgical Technology III ..... **(4:3:4)**
This course is a continuation of SGT 210. Knowledge and skills for effective performance as a scrubbed member of the operating room are stressed. The responsibilities of the surgical technician in the care and safety of the patient during and after surgical intervention in both general and specialty field surgery are reviewed. Prerequisites: SGT 210 and SGT 211. Corequisite: SGT 221

SGT 221 - Surgical Technolgy Clinical II ..... **(5:0:24)**
This course will be clinical rotations in the operating room of affiliated healthcare institutions. Learning experiences in advanced surgical interventions in general and specialty surgery are included. Focus is on the student assuming an independent role as a surgical technician to facilitate transition from student to graduate. Prerequisites: SGT 210 and SGT 211. Corequisite: SGT 220

SMT 110 - Occupational Safety/Health Act..... **(3:3:0)**
The scope and elements of the Occupational Safety and Health Act are covered. The duties and responsibilities of employers and employees under the OSHA Act are discussed. Students are taught to interpret and apply sections of the law in practical exercises. Prerequisites: None.

SMT 120 - Dsgning Safe Work Environments..... **(4:3:3)**
The role of the safety manager in creating safe working conditions is discussed. Safety techniques and programs for construction sites, vehicle operations, factories, offices, and laboratories are presented. Hazardous processes, working with electrical equipment and power tools will also be covered. Prerequisite: SMT 230

SMT 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

SMT 210 - Industrial Hygiene I..... **(3:3:1)**
The fundamentals of the causes and prevention of occupational illnesses and diseases are covered. Chemical, noise, and environmental exposures are discussed in the context of the workplace. Students perform lab exercises designed to apply theories to actual problem solving. Prerequisites: None

SMT 221 - Industrial Hygiene II..... **(3:2:2)**
This advanced course deepens and broadens the student's understanding of occupational health issues. Air, noise, and chemical sampling equipment and techniques are covered in lab exercises. Prerequisites: SMT 210

SMT 230 - Ergonomics ..... **(3:3:0)**
The engineering science of adapting the work environment to the physiological needs of the human worker is presented. The mechanics and results of repetitive motion injuries are discussed and solutions offered. Prerequisites: None.

SMT 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

SOC 103 - Sustainability and Society..... **(3:3:LAB_HOURS)**
This course provides an introduction to contemporary sustainability topics using the "3E" (economics, equity, and the environment) framework. Topics may include sustainability impacts of land use, energy, water use, agriculture, economics, policy, social issue, and natural resource. Prerequisites: (Test Score or MAT 012 or NCS 012 or MAT 015 or MAT 119 or MAT 120 or MAT 130 or MAT 140 or MAT 141 or MAT 150 or MAT 153 or MAT 181) and (Test Score or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test Score or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120)

SOC 111 - Sociology ..... **(3:3:0)**
This course provides an analysis of American social organization and culture, through a cross-cultural perspective. Sociology investigates, describes and analyzes patterns of human behavior in all areas of human experience for the purpose of understanding the human condition. Pre-requisites: (Test Scores or ENG 051 or ENG 099 or NCS 051 or ESL 100 or ENG 121 or ENG 125) and (Test Scores or RDG 051 or NCS 052 or ENG 099 or ESL 100 or RDG 120)

SOC 125 - Honors Sociology..... **(3:3:0)**
This course, which has higher level standards, fulfills the requirement for SOC 111-Sociology I. It emphasizes writing in a variety of modes, focuses on an analysis of American social organization and culture, including relations to other cultures, and integrates the topic of technology and its influences. Prerequisites: Test score or RDG 120

SOC 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

SOC 213 - Ethical Issues in Health Care.....**(3:3:0)**
An introduction to the social process found in the health care system, including those within the group, institutional, and community medical environments. Prerequisites: Test score or ENG 051 or ENG 121 and Test score or RDG 051 or RDG 120

SOC 215 - Business Ethics.....**(3:3:0)**
The starting point is an examination of the philosophical foundation of morality and ethics. Theory is then applied to a variety of business situations using examples and case studies. Situations are viewed from the perspectives of businesses, employees, consumers and society. The student develops an appreciation for the complexities of moral dilemmas. PrerequisitesL BUS 101 and (Test score or ENG 121 or ENG 125).

SOC 221 - Human Diversity.....**(3:3:0)**
This course is designed to increase the student's awareness, tolerance, and appreciation for participation in an increasingly complex and diverse human landscape. This course will have a double focus: one will be an historical approach to intercultural relationships, and the other will be an analysis of the current success in incorporating the emerging diverse minorities into our general social fabric. Prerequisites: Test score or ENG 051 and Test score or RDG 051

SOC 224 - Family Structures.....**(3:3:0)**
An introduction to the development and interpersonal processes of the family, alternative family structures and lifestyles, and dysfunctional patterns and social problems of the family group. Prerequisites: SOC 111

SOC 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

SPA 133 - Using Beginning Spanish.....**(3:3:0)**
Recommended for those who have had no prior study of Spanish or who need a basic working knowledge of the language, this course allows students to focus on the fundamentals: sounds, basic greetings, and simple grammatical structures. Real-life communication will take place in Spanish. Prerequisite: None

SPA 135 - Spanish for Health Care Worker.....**(3:3:0)**
This course prepares students to use Spanish for basic communications in health care situations, for example, making appointments and discussing medical histories, injuries, test procedures. Focus is also on cultural patterns and attitudes toward health care issues. Prerequisites: SPA 133 or SPA 136.

SPA 136 - Spanish Communication I.....**(4:4:1)**
This course introduces students to the Spanish language through communicative interaction. Students will develop listening comprehension (listening and reading) skills, and expressive (speaking and writing) skills. They will acquire basic Spanish grammar and vocabulary needed for daily communication. Students will increase their awareness of Hispanic cultures. Prerequisites: None

SPA 137 - Spanish Communication II.....**(4:4:0)**
Students develop ability to narrate and discuss events in present and past time. Communicative ability is expanded to include a greater variety of social interactions. Emphasis is given to developing listening comprehension skills needed for communication with spanish speakers. Prerequisite: SPA 136

SPA 138 - Spanish Communication III.....**(4:4:0)**
Students strengthen ability and describe present, past and future events. Complex language structures are introduced. Development of listening comprehension skills is a major focus of the course. Prerequisites: SPA 137

SPA 139 - Spanish for Heritage Speakers.....**(4:4:0)**
In this course for native/heritage Spanish speakers, students develop, maintain and enhance their Spanish language proficiencies in the reading, writing, speaking, listening, and cultural competencies. Students use Spanish for a variety of personal, academic, and community interactions with diverse audiences. Prerequisites: Student must be a fluent native/heritage speaker of Spanish with some reading and writing proficiency.

SPA 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

SPA 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

SSC 100 - First Year Seminar.....**(1:1:LAB_HOURS)**
DESCRIPTION

SSC 101 - Career Exploration & Planning.....**(1:1:0)**
This course introduces the process for exploring careers and developing an appropriate career plan. Students will use the results of comprehensive self-assessments to research career options and make informed and realistic career decisions. Prerequisite: None

SSC 104 - Learning Through Service.....**(1:1:LAB_HOURS)**
This course introduces students to the value of service learning by combining community service with academic instruction, focusing on critical, reflective thinking and personal and civic responsibilities. Prerequisites: None

SSC 106 - Introduction to Leadership.....**(1:1:0)**
DESCRIPTION

SSC 108 - Learning with Technology.....**(1:1:0)**
This course teaches students successful strategies for learning with technology in face-to-face and distance education (online, hybrid, and web-enhanced) courses. Prerequisites: None

SSC 114 - Diversity Relations/College Ex.....**(1:1:0)**
A course that examines, cultivates, and uses diversity knowledge, skills, and abilities as a catalyst to analyze and change ways of thinking and performing diversity communications. A brief background of each ethnic group is provided, as well as information about the worldview or orientation that guides a synthesis and evaluation of course competencies into an action plan indicative of the College and various diversity missions. Prerequisites: None

SSC 115 - Research Success Strategies.....**(1:1:0)**
This course introduces the student to basic information literacy skills which include how to access, locate, evaluate and use information sources in a variety of formats. Students will gain an understanding of the role of library resources in the research process. Topics include how to create a search strategy for finding information, use print and electronic resources to locate information, critically evaluate and analyze information sources, and how to properly cite the information. Prerequisites: None

SSC 117 - Brain Power ..... **(1:1:LAB_HOURS)**
The human brain is the most complex organ in the body. This course examines how the brain functions and explores how it regulates basic body functions and responses. Topics include brain development, healthy brain lifestyle choices, and the effects and dangers of drug and alcohol use. Prerequisites: None

SSC 130 - Where's My Money .....**(1:1:0)**
This course, an overview and application of money management, introduces concepts of financial goals within earning, budgeting, spending, and resources in banking to provide a solid foundation for financial success. Students develop a financial plan to promote a healthy standard of living. Prerequisites: None

SSC 131 - Are You Credit Worthy? .....**(1:1:0)**
This course covers obtaining and maintaining access to credit using credit cards, bank cards, and other means. Students develop a plan to establish good credit, discuss the advantages and disadvantages of consumer credit, and explore the various sources of consumer loans. Prerequisites: None

SSC 132 - Planning for the Beach.....**(1:1:0)**
This course allows students to determine what kind of lifestyle they want to have in the future and how much money is needed at that time to maintain it. Students develop an understanding of the power of compounding, the knowledge to select investments based on their own risk/reward preferences, and the ability to calculate how much they need to save today to reach their financial plan. Prerequisites: None

SSC 202 - Strategies to Find/Keep a Job.....**(1:1:0)**
This course introduces students to the tools necessary for success in their selected career field. Students will understand the skills and tools essential for an effective job search. Professional behaviors expected in the workplace are discussed. Prerequisite: None

SSS 101 - Mastering College Life .....**(1:1:0)**
This course is designed to provide any Delaware Tech student with the information necessary to understand and use college procedures, policies, and services. These include, but are not limited to, grading policies, study skills and strategies, learning styles, registration procedures, student rights and responsibilities, introduction to technologies, and student services. Prerequisites: None

SSS 103 - Adult Learner Success Strategy.....**(1:1:0)**
While all students need help adjusting to college life, adult students need special attention if they are to succeed. This course will guide students in increasing their ability to handle the multiple pressures of being an adult student. Topics will include, but are not limited to, balancing college and work, improving efficiency and effectiveness with new learning strategies, thriving under pressure, and gaining support of family and friends. Activities and discussions will focus on behaviors which contribute to a successful and positive college experience. Prerequisites: None

SSS 105 - A College & Life Skills Course.....**(1:1:0)**
The purpose of this course is to enhance your skills and knowledge in both life management and academic planning. Course topics include: money management; interviewing and resume writing skills; college application process; science, math and English success strategies; value of higher education. This course is designed to help you succeed and stay on track toward your life and educational goals! Prerequisites: None

SSS 106 - Becoming a Peer Helper .....**(1:1:0)**
The purpose of this course is to build peer helping and leadership skills. Peer helping builds upon the natural helping skills and relationships which exist among students. Peer helpers will be trained to listen, share experiences, assist with decision making and provide support and practical assistance with their fellow students. Prerequisites: None

SSS 107 - Tutorial Support Course.....**(1:1:0)**
This course is designed to provide any Delaware Tech student (tutor) with the information necessary to offer academic support to students (tutees). Instruction includes, but is not limited to, tutorial procedures and policies, tutor's role and responsibilities, study skills and strategies, learning styles, and diverse student population. Prerequisites: None

TDT 101 - Tractor-Trailer Driver Trainin ..... **(12:7:14)**
Drivers aree trained to safely, legally, and efficiently operate a tractor-trailer, and to teach knowledge of the non-driving duties required for drivers to operate in interstate commerce. Prerequisites: None

TDT 189 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

TDT 289 - Approved Technical Elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

VAS 111 - Vascular Techniques I .....**(3:3:1)**
This course introduces the student to the basic, vascular, physical principles and instrumentation; vascular physiology and hemodynamics; vascular anatomy; and fundamental skills and principles needed to perform peripheral arterial evaluation of the upper and lower extremities. Prerequisites: BIO 120 and DMS 106.

VAS 112 - Vascular Techniques II .....**(3:3:1)**
This course is a continuation of VAS 111 Vascular Techniques I. Emphasis is placed on the fundamental skills and principles needed to perform peripheral venous evaluation of the upper and lower extremities. Evaluation of cerebrovascular, intracranial Doppler is alson introduced. Introductory clinical experiences integrate previously learned principles. Prerequisites: VAS 111

VAS 189 - Approved Technical elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

VAS 213 - Vascular Techniques III.....**(3:3:1)**
A continuation of VAS 112 Vascular Techniques II. Emphasis is placed on the fundamental skills and principles needed to perform and evaluate abdominal aorta, IVC, liver vasculature, mesenteric arteries and renal vascultures Prerequisites: VAS 112

VAS 289 - Approved Technical elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

VET 101 - Intro to Veterinary Technology .....**(2:1:3)**
An orientation and survey course introducing the beginning student to basic practices and principles underlying the field of Veterinary Technology. Career opportunities, professional ethics, practice/facility management, and regulatory organizations will be discussed. Students will study those aspects of medical terminology that are commonly used by the veterinary profession. Prerequisites: Test score or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test score or RDG 120 and MAT 153 and CHM 100 and (BIO 140 or BIO 150)

VET 102 - Veterinary Anatomy.....**(3:2:3)**
This course introduces the student to comparative anatomy of common domesticated species. Anatomical relationships to clinical conditions will be discussed. The laboratory will reinforce gross and microscopic structural differences between species through examination of skeletons and/or slides, cadaver specimens, and radiographs. Prerequisites: (BIO 140 or BIO 150) and CHM 100 and MAT 153.

VET 110 - Veterinary Physiology.....**(3:2:3)**
This course introduces the student to the physiological processes carried out by the major tissues and organ systems in the domesticated species of animals. Regulatory mechanisms and homeostasis are discussed. The laboratory will reinforce the application of physiology to function and dysfunction as seen in veterinary medicine. Prerequisites: VET 101 and VET 102

VET 120 - Breeds And Behavior.....**(2:2:0)**
This course is an overview on the common breeds of domesticated animals. Breed characteristics and disease predisposition of common breeds will be discussed in class. Fundamental principles of animal behavior, including patterns of behavior, evolution of behavior, and abnormal behavior will be discussed. These principles will be applied to teach students proper animal restraint in a variety of settings. Pet selection, behavior modification, human-animal bond, and pet training will be discussed using clinical scenarios. Prerequisites: Vet 101

VET 140 - Pharmacology for Vet Techs.....**(3:2:3)**
This course will provide study in the area of veterinary drugs and medicines. Topics include classes and actions of drugs, calculating dosages, administering medications, pharmacy maintenance, drug dispensing laws and procedures, laboratory safety and pharmacy record keeping. Prerequisites: VET 101 and VET 102

VET 145 - Exotic Animal Care and Mgmt.....**(1:1:0)**
This course provides an overview of exotic animal medicine and surgery as it applies to the veterinary technician. Topics include nursing care, anatomy and physiology, nutrition, husbandry, behavior, common diseases, handling, and surgery and anesthesia of the most common exotic animals will be covered. Prerequisites: VET 110

VET 189 - Approved Technical elective.....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

VET 205 - Small Animal Health & Disease .....**(3:3:0)**
This is a survey course in the infectious and noninfectious diseases of companion animals. The etiology, diagnosis, treatment, and prevention (including dentistry) and vaccination programs will be covered. The role of the veterinary technician in educating the public on common diseases and their clinical signs will be discussed. A good knowledge of comparative anatomy and physiology are necessary for the successful navigation of this course. Prerequisites: VET 120 and VET 110 and VET 140 and MLT 130.

VET 210 - Veterinary Clinical Pathology.....**(3:2:3)**
This course will provide basic backgroound in veterinary pathology covering theory and techniques in hematology, chemistry, urinalysis, microbiology, cytology, and toxicology. An introduction to the common internal and external parasites of small animals will be covered. Practical application of laboratory skills and use of diagnostic equipment is taught in the laboratory. Prerequisite: VET 201 and CHM 111 and MLT 120 and BIO 250

VET 221 - Veterinary Nursing I.....**(3:2:3)**
This course will give the veterinary technician student theoretical and technical skills in medical nursing. Topics include basic animal care and first aid, physical examination, administration of medication, nutrition, and disinfecting/cleaning. Fluid therapy administration will be discussed. Laboratory sessions reinforce the concepts learned in lecture. Prerequisites: VET 110 and VET 120 and VET 140 and MLT 130.

VET 222 - Veterinary Nursing II.....**(3:2:3)**
This course will give the veterinary technician student theoretical and technical skills in surgical and anesthesia nursing. Topics include sterile technique, description and use of surgical equipment, common surgical procedures, preparations of surgical patient, and preparation of the surgical suite. Anesthesiology will be discussed including drugs, patient preparation, monitoring, and post-operative care of the patient. Topics in veterinary dentistry and advanced emergency medicine will be covered. Laboratory sessions reinforce the concepts learned in lecture. Prerequisites: VET 205 and VET 210 and VET 221.

VET 224 - Lg Animal/Equine Nurs/Hlth Mgt.....**(4:3:3)**
This course involves large animal and equine nursing and health management for the veterinary technician. This course provides an introduction to nursing and health management that a technician will be expected to provide in a veterinary practice. Common diseases of livestock and equine including basic therapeutic or diagnostic approaches, and vaccinations will be discussed. Prerequisites: VET 221

VET 230 - Research Animal Technology.....**(3:2:2)**
This course prepares students to work with a variety of animals used in research. Laboratory sessions provide hands-on training in restraint, drug administration, sample collection, anesthesia, and research techniques. Lectures will cover husbandry, diseases, and sanitation, as well as the principles and ethics of animal research. Prerequisites: VET 205

VET 235 - Diagnostic Imaging .....**(3:2:3)**
This course provides students with theoretical and practical information and experience needed to produce diagnostic veterinary medical radiographs. Other methods of diagnostic imaging, including ultrasonography, will be discussed. Prerequisites: VET 205 and VET 221.

VET 250 - Vet Tech Internship.....**(5:0:15)**
This course is designed to give students “hands-on” experience prior to the graduation from the Veterinary Technology program. This course will provide clinical learning situations for developing the techniques required for veterinary technicians in small and/or large animal surgery, medical nursing, clinical pathology, diagnostic

imaging, and ancillary areas. Students are assigned to 240 hours working in a variety of clinical and field service settings under the direction of a qualified veterinarian and/or licensed veterinary technician. Prerequisites: VET 222 and VET 224 and VET 235 and VET 230.

VET 289 - Approved Technical Elective ..... **(3:1:8)**
Students may complete technical electives for which they have written prior approval of the department chairperson. Prerequisite: VET 101 or VET 101 concurrently.

VSC 109 - Drawing I ..... **(4:3:3)**
Fundamentals of drawing; use of line, shape, shading, and pictorial composition through the study of nature, still life arrangements, the human figure, landscapes, etc. Includes introduction to drawing media, such as pencil, pen and ink and charcoal. Prerequisites: None

VSC 115 - Intro To Design ..... **(3:2:2)**
This class is an introduction to the principles and techniques of visual communications and interior design. Emphasis will be placed on the development of problem solving skills required by designers in both disciplines. Key elements of design will be examined in conjunction with training in basic production skills. Prerequisites: Test score or RDG 005 and Test score or ENG 005 and Test score or MAT 005

VSC 125 - Color And Composition ..... **(3:2:2)**
Extensive work in applied color theory combined with the study of compositional formats and styles. Focus will be on application of these concepts in realistic interior and graphic design projects. Prerequisites: Test Score or RDG 005 and Test Score or ENG 005 and Test Score or MAT 005

VSC 131 - Art History I ..... **(3:3:0)**
The history of Western art, architecture, and the decorative arts from cave paintings to the height of the Renaissance. Egyptian, Greek, roman, Gothic, and early Renaissance artists and artworks will be examined and discussed as they relate to the history of art and western civilization. Prerequisites: Test score or RDG 005 or RDG 051 or NCS 052 or ESL 032 or ESL 100 or RDG 120 and Test score or ENG 005 or ENG 051 or NCS 051 or ESL 034 or ESL 100 or ENG 121 or ENG 125

VSC 132 - Art History II ..... **(3:3:0)**
This course deals with the history of Western art, architecture, and the decorative arts from the height of the Renaissance to the 21st century. Relationship between art of the various periods and their historical and cultural influences will be explored. Prerequisite: Test score or RDG 051 and Test Score or ENG 005

VSC 133 - History of Graphic Design ..... **(2:2:0)**
The study of the history and growth of graphic design as it applies to current trends in industry and commerce. The focus will be on a survey of the major innovators and movements in visual communications and advertising in the 20th century. Prerequisite: VSC 115

VSC 134 - Art History Study Abroad ..... **(3:3:0)**
This course is designed with a study abroad component to immerse the student in the art, architecture, artists, styles, and movements of the designated study abroad location. It will be a focused 3-credit art history course run in distributed format. The art history artifacts will be studied in-place as they are found in the museums and and historical sites of the designated study abroad location(s). Prerequisites: Test scores or ENG 051 or NCS 051 or ESL 100 or ENG 121 or ENG 125 and Test scores or RDG 051 or NCS 052 or ESL 100 or RDG 120

VSC 135 - Non-Western Art Survey ..... **(3:3:0)**
This is a survey course of the diverse art of the non-western world. The art of Africa, Native American, India, China, etc., will be examined. Largely ignored in traditional art history courses, non-western art has had a great cultural and stylistic influence on today's art world. Prerequisite: Test Score or RDG 051 and Test Score or ENG 005

VSC 155 - Typography And Layout ..... **(3:2:2)**
This course examines the history of type and typesetting, modern methodologies and principles, and the aesthetics of good typographic design. Students will strengthen their use of type as a design element through a variety of projects ranging from elementary exercises to intermediate and advanced presentations. Prerequisites: VSC 115 and VSC 160

VSC 160 - Computer Graphics I ..... **(4:3:2)**
Students will be introduced to the computer as an artistic medium. The basics of the Macintosh operating platform and Adobe Photoshop and QuarkXPress software will be emphasized. Students will become proficient in the use of these important computer graphic software packages through a series of beginning to intermediate projects. Prerequisites: Test score or RDG 005 and Test score or ENG 005

VSC 161 - Computer Graphics II ..... **(4:3:2)**
Students will continue progress initiated in Computer Graphics I and expand their capabilities to include further mastery of Photoshop, QuarkXPress, and additional software skills with the draw program, Adobe Illustrator. Emphasis will be placed on development of professional level projects for inclusion in the student's final portfolio. Prerequisites: VSC 160

VSC 165 - Photography I ..... **(4:3:2)**
This course is an introduction to the 35mm camera and the exposure controls and creative decision making skills necessary to create quality images on film. It will focus on managing the variables of shutter speed, film speed, aperture settings, and other elements. Artistic and aesthetic issues relevant to professional practice also will be explored. Prerequisites: Test score or RDG 005 and Test score or ENG 005 and Test score or MAT 005

VSC 166 - Photography II ..... **(3:2:4)**
Students will expand their knowledge of photography beyond those learned in Photography I and develop a deeper understanding of aesthetic issues. It will focus on the technical aspects of processing black and white film and prints and explore the students' personal creativity and vision. Prerequisites: VSC 165

VSC 175 - Print Production Processes ..... **(2:1.5:1)**
A study of the processes used in the printing industry. Emphasis will be placed on terminology, practices, and techniques for effectively communicating with printing professionals. Class projects will develop the students' ability to design within the parameters necessary to insure a printable solution. Prerequisites: VSC 155 and VSC 160

VSC 181 - CorelDraw ..... **(4:3:2)**
An introduction to CorelDraw, a PC-based graphic design software package. Emphasis will be placed on illustrative and text handling capabilities of the software through exercises and projects. This serves as a valuable cross-training course for visual communications students. Prerequisites: Test score or RDG 005 and Test score or ENG 005

VSC 185 - Advanced Drawing ..... **(3:2:2)**
Self-paced study of advanced techniques in a selected drawing

media or technique. Targeted for students with skills beyond the foundation level or students intending an illustration career. Requires permission of the department chairperson. Prerequisites: VSC 109

VSC 186 - Advanced Painting ..... **(3:2:2)**
Self-paced study of advanced techniques in a selected painting media or technique. Targeted for students with skills beyond the foundation level or students intending an illustration career. Requires permission of the department chairperson. Prerequisites: VSC 125

VSC 187 - Advanced Illustration ..... **(3:2:2)**
Self-paced study of advanced techniques in a selected media or technique. Emphasis will be placed on development of a personal illustrative style. Targeted for students intending to pursue an illustrative career. Requires permission of department chairperson. Prerequisites: VSC 109 and VSC 125 and VSC 165.

VSC 189 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

VSC 190 - Intro To Videography ..... **(3:2:2)**
Students will learn the basics of video camera operation, lighting, sound, and editing. Emphasis will be placed on lectures and hands-on assignments as students prepare to use video production techniques on multimedia projects. Prerequisites: VSC 160 and VSC 165

VSC 251 - Portfolio Workshop ..... **(4:3:3)**
An individualized assessment of the student's work followed by assignments aimed at strengthening the content and/or presentation of the final portfolio. Must be coordinated with other classes in the student's final semester and culminates with a formal portfolio review presentation. Prerequisites: VSC 115 and VSC 155 and VSC 161 and VSC 165.

VSC 260 - Multimedia Authoring ..... **(3:2:4)**
Students will learn how to script and execute interactive multimedia presentations. Emphasis will be placed on design and techniques through the development of a full multimedia presentation project. Prerequisites: VSC 160 and VSC 161 and VSC 262.

VSC 261 - Multimedia Sound ..... **(3:2:2)**
This course is a study of the theory, techniques, and control of sound recording and computer sound editing. An emphasis will be placed on the use of sound as it relates to multimedia presentations. Prerequisites: VSC 160

VSC 262 - Computer Graphics III ..... **(4:3:2)**
Students will continue progress initiated in Computer Graphics I and II and expand their capabilities to use them in multimedia applications. Software skills will expand to include Adobe Premier. Students will complete a four-to-six minute presentation as well as other exercises and projects. Emphasis will be placed on development of professional level projects for inclusion in the student's final portfolio. Prerequisites: VSC 115 and VSC 160.

VSC 263 - Advanced Multimedia Authoring ..... **(4:3:3)**
In this class students will learn advanced concepts in scripting as they build on skills mastered in Multimedia Authoring. Advanced Lingo software and web applications also will be addressed. Requires permission of the department chairperson. Prerequisites: VSC 260

VSC 264 - 3-D Design and Animation ..... **(4:3:3)**
In this class, students will learn advanced concepts as they build on skills mastered in earlier computer graphics classes. Students will be introduced to designing and animating objects using 3-D software and the use of timelines for animation. Prerequisites: VSC 162

VSC 265 - Motion Graphics ..... **(3:2:4)**
A study of the basics of computer animation via foundation level projects. Additional work will be done using traditional animation methods in a digital environment. Prerequisites: VSC 161

VSC 267 - Color Photography ..... **(4:3:3)**
Students will be introduced to the concepts of color photography incorporating digital darkroom tools. Students will be using traditional camera techniques combined with digital manipulating and printing methods. Prerequisites: VSC 125 and VSC 160 and VSC 166.

VSC 268 - Photo Illustration ..... **(3:2:3)**
Students will be asked to expand their problem solving abilities as well as their technique as they begin using large format camera techniques. Using the 4x5 camera, students will explore commercial illustration tools, props, lighting and background requirements needed by the new digital photographer. Prerequisites: VSC 166

VSC 270 - Project Management ..... **(2:1.5:1)**
A study of management skills as they apply to the advertising and multimedia design industry. Emphasis will be placed on scheduling, pricing, ethical guidelines, and media specification. Students will develop projects and move them through concept, development, production and delivery. Prerequisites: VSC 115 and VSC 160 and VSC 175

VSC 271 - Illustration ..... **(3:2:2)**
This course is a study of the technical and aesthetic aspects of creating illustrations for publication. A range of assignments will be used to build skills in rendering in various media and in the conceptualization of images for editorial, commercial, and book illustrations. Prerequisites: VSC 109 and VSC 115 and VSC 125 and VSC 160.

VSC 275 - Self Promotion ..... **(2:1.5:1)**
The current trends in self-promotional techniques for the visual communications professional. Students will develop materials designed to help them get the attention of potential clients or employers. Emphasis will be on showcasing the student's individual talents through a series of promotional projects. Prerequisites: VSC 155 and VSC 161 and VSC 165

VSC 281 - Project Elective ..... **(3:2:2)**
Individualized work on a practical field assignment or specified series of assignments that will help prepare the student for the realities of being a visual communications technology professional. Requires approval and sponsorship of the instructor. Prerequisite: Permission of the department chairperson

VSC 285 - Advanced Project Elective ..... **(3:2:4)**
Advanced level individualized work on a practical field assignment or specified series of assignments that will help prepare the student for the realities of being a visual communications technology professional. Must include scheduling, cost analysis, and contractual components. Requires approval and sponsorship of the department chairperson. Prerequisites: VSC 115

VSC 289 - Approved Technical Elective .....
(3:LECTURE_HOURS:LAB_HOURS)
Students may complete technical electives for which they have written prior approval of the department chairperson.

VSC 292 - Video Production ..... **(4:3:2)**
This course is a study in the coordination of the many facets of the video studio. Direction, sound, camera, output devices, and video editing will be covered as well as scripting and electronic graphics. Prerequisites: VSC 190

WEB 160 - Internet/Web Construction ..... **(3:2:2)**
This course enables students to create websites using HyperText Markup Language (HTML) and cascading style sheets (CSS). Prerequisites: CIS 120