2013 - 2014 *GCC Catalog*

Gateway
Community College

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The college reserves the right to modify any statement contained herein. Students are responsible for complying with all regulations contained in this catalog and the dates cited in the official academic calendar.

"When you learn, teach. When you get, give."

A Message from the President

I am pleased to welcome you to Gateway Community College. We take pride in providing equal access to a high-quality education, state-of-the-art equipment and laboratories, and a caring faculty and staff who provide the educational support you will need to achieve your learning goals and maximize your human potential.

This catalog will acquaint you with the wide array of degree and certificate programs available to you at Gateway Community College. I encourage you to become familiar with the contents of this document. It will be your guidebook during your time at the College.

My vision for Gateway Community College is to provide you with the best possible choices for success. I realize that you are here because you have made the decision to improve the quality of your life through education. In doing so, you also enhance the quality of your future and the future of our community.

I wish you the best in your lifelong endeavors.

Sincerely,

Dorsey L. Kendrick, Ph.D.

President

Academic Calendar 2013 - 2014

Fall 2013

August 28	Last Day of Extended Registration before Classes Begin
August 29	Professional Day
September 2	Labor Day (COLLEGE CLOSED)
September 3	First Day of Regular Semester
September 9	Last Day to Add Classes (Until 4:00 pm)
October 14	Columbus Day (COLLEGE CLOSED)
October 25	Mid-Term Deficiency Reports Due from Faculty
November 8	Last Day to Make Up Incomplete Grades from Spring 2013
November 15	Last Day to Withdraw from Individual Classes
November 27	Faculty Planning Day (No classes)
November 28	Thanksgiving (COLLEGE CLOSED)
November 29 - December 1	Thanksgiving Recess (NO CLASSES)
December 14	Last Day of Classes
December 16 - 21	Final Examinations
December 26	Last Day to Submit Final Grades (by 12 noon)
December 27	Semester Ends

Spring 2014

January 20	Martin Luther King Day (COLLEGE CLOSED)
January 21 - 23	Professional Week - Extended Registration before Classes Begin
January 23	Professional Day
January 24	First Day of Regular Semester - Classes Begin
January 31	Last day to Add Classes (until 4:00 p.m.)
February 17	President's Day (COLLEGE CLOSED)
March 4	Last Day to Make up Incompletes from Fall 2013
March 14	Mid-Term Deficiency Reports Due from Faculty
March 17 - 23	Spring Recess (No Classes)
April 11	Last Day to Withdraw from Individual Classes
April 18 - 20	Easter Recess (COLLEGE CLOSED)
May 10	Last Day of Classes
May 12 - 17	Final Examinations
May 20	Last Day to Submit Final Grades (by 12 noon)
May 22	Graduation
May 26	Memorial Day (COLLEGE CLOSED)
May 30	Semester Ends

INTRODUCTION

ABOUT THIS CATALOG

This catalog contains both academic and general information and Gateway Community College's policies at the time of publication. Each student is responsible for becoming thoroughly familiar with the catalog and the rules, regulations, and program requirements it contains. A student has the right to be graduated by the College under the conditions and requirements contained in the catalog in use at the time of initial registration. A student may elect to graduate under the conditions and requirements of a program contained in a subsequent catalog. However, in no case will a student be permitted to use requirements for graduation from more than one catalog.

ABOUT THE COLLEGE

Gateway Community College (GCC) provides the residents and businesses of the Greater New Haven area with innovative educational programs and social and cultural opportunities at its locations in New Haven and North Haven. On July 1, 1992, the New Haven location at Long Wharf, formerly known as South Central Community College, combined resources with Greater New Haven State Technical College in North Haven. This merged institution is one of twelve public community colleges in Connecticut.

In the academic year 2012-2013, the College served the educational needs of 11,256 full- and part-time students through 98 academic programs or program options that lead to a certificate or to an associate degree in arts, science, or applied science. There were 1,487 more students enrolled in non-credit courses and Business and Industry Services programs. During the last academic year, 79% of students were enrolled in one of the College's degree or certificate programs or program options. Courses are offered at convenient times for both full- and part-time study during the day, evening, and Saturdays. The College's 387 full- and part-time faculty members and 145 staff are committed to continuing the proud tradition of the institution. The College looks forward to serving the residents and businesses of South Central Connecticut.

The downtown campus offers all credit and non-credit courses towards associate degrees and certificates in academic and career programs. The North Haven location currently houses our Automotive programs. All degree programs are transferable to four-year colleges and universities. Curricula have been designed with local employment needs in mind. Developmental courses in English, reading, and mathematics are offered to enhance student academis skill levels. English as a Second Language courses are also offered.

The community also benefits from Gateway's numerous credit-free offerings. The Office of Business and Industry Services and the Workforce Development Institute provide workforce development, business development and technology transfer programs.

Courses and programs are offered in response to the educational, economic, and socio-cultural needs of the region.

MISSION AND PURPOSE

The College community adopted the following mission statement in February 1997:

Gateway Community College offers high-quality instruction and comprehensive services in an environment conducive to learning. We respond to the changing academic, occupational, technological, and cultural needs of a diverse population.

To realize this mission, Gateway Community College:

Offers a broad range of credit and credit-free liberal arts and sciences, technical, and career associate degree and certificate programs and courses leading to transfer, employment, and lifelong learning;

Encourages student success and inclusion through stimulating learning opportunities, innovative teaching, support services, and co-curricular activities;

Supports economic development through partnerships with business, industry, government, and our community by providing workforce development, business development, and technology transfer;

Strengthens our community through the sponsorship of intellectual, cultural, social, and recreational events and activities;

Engages students and community members as active, responsible leaders.

ACCREDITATION

Gateway Community College is accredited by the New England Association of Schools and Colleges Inc. (NEASC) through its Commission on Institutions of Higher Education.

Accreditation of an institution of higher education by NEASC indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group review process. An accredited college or university is one that has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is addressed through accreditation.

Inquiries regarding the accreditation status by NEASC should be directed to the administrative staff of the institution. Individuals may also contact:

Commission on Institutions of Higher Education
New England Association of Schools and Colleges, Inc.
209 Burlington Road
Bedford, MA 01730-1433
(781) 271-0022
e-mail: cihe@neasc.org

PROGRAM ACCREDITATIONS

The Automotive Programs (General Motors (ASEP) and the Alternative Fuel Certificate Program) are certified by the National Automotive Technicians' Education Foundation Inc. (NATEF).

The Dietetic Technology Program is currently granted accreditation by the Accreditation Council for Education in Nutrition and Dietetics, the accrediting agency for the Academy of Nutrition and Dietetics, 120 South Riverside Plaza, Suite 2000, Chicago, Illinois 60606-6995, (312) 899-0040 ext. 5400 or (800) 877-1600; www.eatright.org.

The Joint Review Committee on Education in Radiologic Technology, 20 N. Wacker Drive, Suite 2850, Chicago, IL 60606-3182, (312) 704-5300, www.JRCERT.org and the Joint Review Committee on Education in Nuclear Medicine Technology accredit the Radiologic Technology Programs (Diagnostic Medical Sonography, Nuclear Medicine Technology, Radiation Therapy Technology and Radiography). (Recognized by the American Registry of Radiologic Technology, the Nuclear Medicine Technology Certification Board, and the American Society of Radiologic Technology.)

The Drug and Alcohol Recovery Counselor Program is approved by the Connecticut Certification Board, a member of the International Certification and Reciprocity Consortium/Alcohol and Other Drug Abuse, Inc.

The National League for Nursing Accrediting Commission, Inc. (NLNAC), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326. Telephone: 404-975-5000; Fax: 404-975-5020. www.nlnac.org.

The Early Learning Center is accredited by the National Association Education for Young Children.

LICENSURE

Curricula are approved and licensed by the Board of Governors for Higher Education in the state of Connecticut. The state of Connecticut, Department of Education, Veterans Education Division, approves the College's programs for the education and training of veterans under provisions of Section 1775, Chapter 36, Title 38, USC.

ABOUT OUR STUDENTS

In the academic year 2012-2013, the College served the educational needs of 11,256 full- and part-time students through 98 academic programs or program options that lead to a certificate or to an associate degree in the arts, sciences, or applied sciences. There were 1,487 more students enrolled in non-credit courses for personal enrichment, continuing education or training geared to business and industry.

In the fall 2012, females comprise 60% of the College enrollment; 61% of students are ethnic minorities; and 68% attend GCC on a part-time basis. The average student age is 28.

According to the responders of the 2011 graduate survey, 70% of our occupational and technical program graduates are employed after graduation, and 44% chose to continue their studies at a four year institution.

GCC encourages and supports almost 30 percent of students attending to obtain basic skills, English, mathematics, and sciences for admission to baccalaureate programs.

PARKING

Individual Type and Parking Garage Access:

- Credit Students: Parking access for registered credit students will begin two weeks before the start of classes and end the day of finals

- Summer Session Students: parking access will begin the first day of class and end the last day of class for the sessions for which they have registered

- Winter Session Students: parking access will begin the first day of class and end the last day of class for the sessions for which they have registered

- Non-Credit (CCE) Students: parking access will begin the first day of the course and end the last day of course for which they have registered

- Faculty & Staff: parking access is granted based on active employee dates

- Student Employees: parking access is granted based on active employee dates

- Affiliated Staff: parking access is granted based on inputted field in Banner. Manual deactivation will be required.

Reserved parking:

- Available on the first level and designated spaces on second and third levels of the Gateway garage, for full-time faculty and staff only

- Eligible faculty/ staff must display their parking hanger or will be ticketed

- Part-time faculty and staff will park in remaining Gateway Garage spaces or in the Temple Street Garage

Visitor Parking

- Anyone visiting the college for business before the semester begins will be considered a visitor.

- Visitors will park in the Temple Street Garage and receive a ticket.

- Tickets will be validated by Gateway at the Security areas.

Cards are valid for the hours of Garage Operation (see below)

Hours of College Parking Garage Operation

Spring and Fall Semesters

Gateway Garage		Temple Street Garage
Monday – Friday	6:00 a.m. - 11:30 p.m.	24 hours - 7 days/week
Saturday	7:00 a.m. - 5:00 p.m.	
Sundays	Closed	

Winter Intersession and Summer - Reduced daily hours/No Saturdays or Sundays

Traffic violations are punishable by fines and/or towing of vehicles at the owners' expense. Parked vehicles that create a hazard, impede traffic flow or restrict parking will be tagged and/or towed at the owner's expense.

Fines are payable in the Business Office within one week of issuance. Failure to pay fines will result in a hold on student registration for future courses until the fine is paid.

All violations are subject to appeal throughout the Traffic Appeals Committee. Request for appeal should be made through the Dean of Administrative Affairs at (203) 285-2021.

CANCELLATION OF CLASSES
Weather Hotline: (203) 285-2049

Occasionally classes are cancelled due to extreme weather conditions or other emergencies. In such cases the College notifies local radio and TV stations as soon as the decision is made to cancel classes. These stations include: WICC-AM 660, WEZN-FM 99.9, WELI-AM 960, WEBE-FM 107.9 and WKCI-FM 101.3, WTNH Ch.8, WTIC

Ch. 3 & 30. In general, it is best to assume that classes will remain in session unless a specific announcement is made to cancel classes and/or close the College. For the most up-to-date information, watch your local television station or listen to one of the radio stations listed for closure updates.

NOTIFICATION OF RIGHTS UNDER THE FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)

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.** Students should submit to the registrar, dean, head of the academic department, or other appropriate official, written requests that identify the record(s) they wish 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 amendment of an education record that the student believes is inaccurate.** Students may ask an appropriate College official to amend a record that they believe is inaccurate. The student should write to the College official, clearly identify the part of the record he or she wants changed, and specify why he/she believes it is inaccurate. The College will notify the student of the decision. If the College decides not to amend the record as requested by the student, the College will advise the student of his or her 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.

NOTE: FERPA is not intended to provide a process to question substantive judgments that are correctly recorded. For example, the right of challenge does not allow a student to contest a grade in a course because the student believes that a higher grade should have been assigned.

3. **The right to consent to disclosure of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.** FERPA permits disclosure without consent to school officials with legitimate educational interests. A "school official" includes but is not limited to the following: a person employed by the College in an administrative, supervisory, academic, research or support staff position (including law enforcement and security personnel, counseling and health staff); a person or company with whom the College has contracted (such as an attorney, auditor, collection agent or official of the National Student Clearinghouse); a person serving on the Board of Trustees who is authorized to act on its behalf; 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. 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.

FERPA also permits disclosure of education records without consent in connection with, but not limited to:

- To comply with a judicial order or a lawfully issued subpoena;
- To appropriate parties in a health or safety emergency;
- To officials of another school, upon request, in which the student seeks or intends to enroll;
- In connection with a student's request for or receipt of financial aid, as necessary to determine the eligibility, amount or conditions of the financial aid, or to enforce the terms and conditions of the aid;
- To certain officials of the U.S. Department of Education, the Comptroller General, to state and local educational authorities, in connection with certain state or federally supported education programs;
- To accrediting organizations to carry out their functions;
- To organizations conducting certain studies for or on behalf of the College;
- The results of an institutional disciplinary proceeding against the alleged perpetrator of a crime of violence to the alleged victim of that crime with respect to that crime.
- Directory information as defined in the policy of the Board of Trustees.

4. **The right to refuse to permit the College to release directory information** about the student, except to school officials with a legitimate educational interest and others as indicated in paragraph 3 above. To do so, a student exercising this right must notify the Office of Registrar in writing *[location to be inserted by each College]*. Once filed, this notification becomes a permanent part of the student's record until the student instructs the College, in writing, to remove it.

5. **The right to file a complaint with the U.S. Department of Education concerning alleged failures by Colleges 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 20202-4605

Directory Information

The Board of Trustees designated the following as directory information: student names and addresses, dates of attendance, full vs. part-time student status, awards and honors and graduation date. For purposes of access by military recruiters only, telephone listings and, if known, age, level of education and major are also designated as directory information.

Colleges may disclose directory information without prior consent, unless a student has exercised the right to refuse to permit the College to release directory information in accordance with paragraph 4 above.

UNIFORM CAMPUS CRIME REPORT

Gateway Community College herein complies with the State of Connecticut's Campus Safety Act, Public Act 90-259 and with the Cleary Act, both of which mandates the annual publication of a Uniform Campus Crime Report, and establishes a process for raising awareness of safety on college campuses. Broader awareness of campus safety issues and procedures at Gateway Community College is the first step toward improving the security of students and staff.

Gateway Community College in compliance with all applicable laws, will notify all current students and employees of the annual campus safety report's availability on the College's website, GatewayCT.edu. A hard copy of the report can be obtained from the office of the Dean of Administrative Affairs.

INFORMATION TECHNOLOGY RESOURCES POLICY

The Connecticut Community College (CCC) System provides information technology resources (IT resources) to faculty, staff and students for academic and administrative use. IT resources may also be available to members of the college community through college libraries and websites. This policy applies to all users of IT resources.

IT resources include, but are not limited to, computers and peripheral hardware, software, networks, databases, electronic communications and Internet connectivity. CCC IT resources are the property of the Board of Trustees. Use of such resources is a privilege and is subject to such IT policies, standards and procedures as may be promulgated from time to time.

IT resources shall be used solely for legitimate and authorized academic and administrative purposes, and in furtherance of CCC mission and goals. They shall not be used for personal purposes, including monetary gain. Use of IT resources may be monitored by the appropriate CCC authority to ensure proper and efficient usage, as well as to identify problems or to check for security violations.

Any unauthorized or illegitimate use of IT resources may subject the user to disciplinary action, up to and including dismissal or expulsion, as well as loss of computing privileges. Users must comply with all applicable state and federal laws and may be subject to criminal prosecution for violation thereof under state and federal laws.

The Chancellor is authorized to promulgate necessary and appropriate IT policies, standards and procedures, including but not limited to those affective acceptable uses of IT resources, electronic communications and network security. Colleges shall ensure that users of IT resources are aware of all IT policies, standards and procedures, as appropriate.

COMPUTER USE POLICY OF GATEWAY COMMUNITY COLLEGE

This Computer Use Policy governs all computer users at Gateway Community College and outlines the acceptable use of its computer resources. The policy has been formulated in accordance with the state of Connecticut, Department of Information Technology acceptable use policy, Connecticut software management policy and Connecticut General Statute 53, sections 451-453.

Violation of this Computer Use Policy may result in a loss of access privileges as well as college disciplinary and/or legal action.

Scope

This policy applies to all users of Gateway Community College's computing equipment.

Objectives

This policy:
    Establishes user responsibilities;
    Defines acceptable use; and
    Defines inappropriate use of computer resources.

User Responsibilities

Computer users must be mindful of the impact of their activities on computing resources, network resources, and other users. The holder of either a network or Banner account is responsible for his/her actions and activity within his/her account. If a violation of the computer use policy is suspected, the College reserves the right to examine any of Gateway Community College's owned or operated computer resources, communication systems, and/or files.

Lab Assistants' Responsibilities

Oversee the College's open labs and uphold the Computer Use Policy

Assist students who are currently enrolled in Gateway classes

Monitor and report to the Information Technology office any activity that appears to be inappropriate

Acceptable Uses

1. Account use, including Banner account use, by the authorized owner for authorized purposes

2. Use of computer resources in a manner that respects the right of others

3. Adhering to quotas for disk space on systems, such as e-mail

4. Use of the network in a socially appropriate manner

5. Communication and exchange of information for professional and academic development

6. Applying for administrative grants or contracts for research and/or instruction

7. Collaboration with peers at other community colleges in support of work-related activities

8. Supporting appropriate institutional communication to the college community

Unacceptable Uses

1. Use of any computer resources for commercial or for profit purposes

2. Deliberately damaging or physically misusing equipment

3. Possession of food or drink in labs or at any library workstation

4. Downloading or distributing any software from the Internet without the prior consent of the Information Technology department. Examples of such downloads include, but are not limited to, screen savers, wallpapers, games, web cams, shareware/freeware programs, and PowerPoint slides

5. Engagement in chat-rooms, instant messaging, or threaded discussions on the Internet, except for legitimate academic purposes

6. Violating federal or state law, including copyright regulations

7. Concealing or misrepresenting your name or affiliation to mask irresponsible or offensive behavior, including using other identities as your own. This is fraud

8. Viewing, downloading, or printing sexually graphic or suggestive materials, including inappropriate text files or files dangerous to the integrity of the local and wide area network. Violation of this clause can be considered grounds for disciplinary action for sexual harassment

9. Installing, deleting, or altering computer software on any computer without proper license and authorization from the Information Technology department

10. Political lobbying

11. Sharing any passwords and/or accounts

12. Malicious use of the network to develop programs that harass other users, infiltrate a computer or computing system, and/or damage Gateway Community College's software

13. Sending hate mail, harassing, making discriminatory remarks, and/or other antisocial communication

14. Deliberately monopolizing computer resources to the exclusion of other users. This includes, but is not limited to, broadcasting unsolicited mailing or other messages, creating unnecessary output or printing, and creating unnecessary traffic using such tools as streaming audio, video, and game-playing on the Internet

15. Altering or manipulating another user's data/files

The Information Technology department periodically monitors computers in all areas of the College. Be aware that e-mail messages are considered public record, and are therefore legally discoverable and subject to record retention.

APPLICATION AND ADMISSION PROCEDURES

Admissions Office   (203) 285-2010

Gateway Community College is dedicated to providing educational opportunities through an open-door admission policy to graduates of an approved secondary school or those who hold a State Equivalency Diploma (GED). Admission is offered on a first-come, first-served basis by program within budgetary limitations, with the exception of Nursing, Radiologic Technologies, Drug and Alcohol Recovery Counselor, and General Motors Automotive programs.

Admissions Procedures

The following steps must be taken to ensure a complete application file:

1. New students are encouraged to apply online for the spring, fall or summer semesters via the Gateway Community College website, GatewayCT.edu. Students may also obtain an application from the Admissions Office at the College Campus, 20 Church Street, New Haven, CT 06510, or from the Gateway website. Please note: new students cannot register online.

2.   A copy of a student's high school transcript showing graduation date or a copy of a high school diploma or GED must be sent to the Admissions Office at 20 Church Street, New Haven, CT 06510. Please note: if you attended high school under another name, please make sure that name is noted on your diploma or transcript. Upon receipt of a college transcript showing Associate Degree or higher has been conferred, the high school requirement will be waived. Verification of high school completion is required prior to registration for all students in a degree or certificate program.

3. All new applicants are required to pay a $20 non-refundable application fee. Attach a $20 check or money order, made payable to Gateway Community College, to your application. If you have attended another Connecticut Community College, this fee is waived. Online applicants can pay the fee with a cedit card.

4. Students who attended a college outside of the U.S. must have their credits evaluated by WES or CED. An official transcript of the evaluation must be sent to the Admissions Office for review.

5. After being admitted, all degree or certificate seeking students are required to take placement examinations in reading, English, and mathematics. English and mathematics credits earned from an accredited institution of higher education will be reviewed to determine if a student must take the tests. (Students in Business Office Technology may be required to take an additional, specialized proficiency examinations.) If test results indicate deficiencies, students will be expected to take an additional course or courses to increase their capability for success in college-level work. In lieu of taking placement tests, students may provide evidence – college transcript(s), *SAT scores, ACT Scores, CLEP, Dantes, or Advanced Placement results. *If providing SAT or ACT scores, they must be brought to the attention of the Director or Associate Director of Admissions for review.

6. New students may be asked to verify immunization status.

    MEASLES/RUBELLA/MUMPS/VARICELLA

    Section 10a-155 of the Connecticut general statutes will require that each full time or matriculating student provide proof of adequate immunization against Measles, Mumps, Rubella (MMR) and Varicella as recommended by the Advisory Committee for Immunization Practices (ACIP). A copy of the statute is available at: http://www.cga.ct.gov/2009/pub/chap185b.thm#htm#Sec10a-155.htm.

    FULL TIME/MATRICULATING STUDENTS

    Matriculating students are defined as those enrolled in a degree seeking program. Part time non-matriculating (Non Degree) students are not required to have MMR and Varicella immunizations although they are recommended to have those vaccines by ACIP.

Exemptions will be granted only:

- Individuals born in the United States before January 1, 1957 are exempt from supplying MMRV;

- Individuals born in the U.S. prior to January 1, 1980 are exempt from providing Varicella;

- Individuals born in the United States between January 1, 1957 and January 1, 1980 are exempt from supplying Varicella only (Need proof of MMR);

- Laboratory confirmation to such disease (titer test);

- Documentation from a physician stating that the student is medically contraindicated from receiving such vaccine;

- Documentation from the student that the immunization is contrary to his/her religious beliefs. If students claim a religious exemption or medical exemption and there is an outbreak of measles, mumps, rubella or varicella on campus, those students may be excluded from college activities, including classes and exams;

- Documentation from a physician or director of health that the student has had a confirmed case;

- Enrollment in a distance learning program conducted entirely through electronic media in a setting without other students present;

- For MMRV, two doses are needed. The doses should be separated by at least 30 days with dose number one given on or after the first birthday.

Any student not showing the necessary proof of immunization will not be allowed to register for classes.

STUDENT TYPES

New Students - A new student is anyone who has never attended another higher education institution and is attending Gateway for the first time with the intention of obtaining a degree, certificate, or transferring to another institution. Please complete the Admissions Procedures Steps 1 – 6.

Transfer Students - A transfer student is anyone who has attended another higher education institution prior to Gateway Admission. Please complete the Admissions Procedures Steps 1 – 6.

Transfer applicants must request that the registrar of any college or university previously attended forward official transcripts to the Admissions Office. In addition, an official high school transcript or copy of high school diploma or GED is required. If transfer credit is desired, please notify the Admissions Office. Transfer evaluations will be performed for degree or certificate students only. New students to Gateway Community College who wish to transfer in credits from another college need to complete and submit a "New Student Transfer Evaluation Request Form." An unofficial copy will suffice for advising purposes only. Evaluations will be completed once a student registers.

At all Community Colleges, degree and certificate credit shall be granted only for credit courses completed at all institutions within the Connecticut state system of higher education and at all other collegiate institutions accredited by an agency recognized by the Council for Higher Education Accreditation as either a Regional Accrediting Organization or a Specialized and Professional Accrediting Organization in accordance with the following:

1. Degree and certificate credit shall be granted for all credit courses that are applicable to the objectives of, or equivalent to the course requirements of, the curriculum in which the transferring student enrolls. Credit work that is not applicable or equivalent to curriculum requirements shall be accepted for credit at the discretion of the college. Degree and certificate credit shall also be granted on the basis of performance on examinations in accordance with standards and limits approved by the board of trustees.

2. Degree and certificate credit shall be granted for credit courses completed with a letter grade of "C-minus" or better, or with a grade of "P" (Pass). Such credit courses shall be accepted only for credit, and letter grades assigned by other institutions shall not be recorded or included in computations of student grade point averages.

3. Notwithstanding the number of degree or certificate credits which shall be granted in accordance with the foregoing, the student must complete at least twenty-five percent of the minimum credit requirements for the degree or certificate through coursework at the college awarding the degree or certificate.

4. When a student seeks transfer credit for technical or specialty courses into a program that is also accredited by a national or regional specialized accrediting agency, such credits must be from a comparably accredited program. In the case of a request for transfer credit for technical or specialty courses from a non-specially accredited program, the college shall provide appropriate means for the validation of the student's competency in the technical specialty course area

International Students - An international student is a student on an F-1 visa or would like to apply for an F-1 (student) visa.

The credentials of an applicant for admission from another country are evaluated in accordance with general admissions requirements. A completed application, official leaving certificates, and detailed transcripts, in English, of the student's academic record should be sent to the Admissions Office. Applicants who wish to begin undergraduate study must submit all credentials by June 15 for the fall semester and by October 15 for the spring semester. This will allow time for the exchange of official correspondence, and, if the applicant is admitted, will allow time to obtain a passport and/or visa. The I-20 A-B Form, required by the United States Immigration and Naturalization Service, is issued by the College only to students who have been accepted as full-time degree students.

Evidence of the ability to read, write, and speak English well enough to pursue college courses must be submitted to the College. If the applicant's primary language is not English, TOEFL (Test of English as a Foreign Language) scores must be submitted. Information about the test can be obtained by writing to TOEFL, Test of English as a Foreign Language, CN 6151, Princeton, NJ 08541-6151.

The College awards no financial aid (scholarships or loans) to international students, nor does the College make housing available. Applicants must be entirely self-supporting and be able to meet all financial obligations to the College in full and from their own resources. Employment in the United States is not guaranteed, and immigration laws governing employment of international students are very strict. Therefore, a notarized letter or affidavit of support must be submitted from a financial sponsor, who must state his/her name and relationship to the applicant. The sponsor must state his/ her willingness and ability to meet any financial obligations that are related to studies at Gateway Community College.

Readmit Students - A readmit student is defined as any student whose last semester of attendance at Gateway was over two years ago.

Readmit students are former Gateway Community College students who have withdrawn from the college or have been absent from the college for at least two years (excluding summer and winter intersessions). Please contact the Admissions Office. It is not necessary to pay the $20 application fee. However, if students attended another college during their absence, they must submit an official transcript from each college if they wish to transfer credit.

Other Special Admissions Groups - The College has special agreements with various groups that fall outside the categories mentioned above. These include High School Partnerships, Home School, TAA/WIA, and Senior Citizens.

Admissions OF NEBHE Students

The Board of Trustees adopts the following recommendations of the New England Board of Higher Education (NEBHE) for reciprocity among the New England states through the New England regional student program, with the reservation that priorities go to Connecticut students in the event of budget and/or space limitations:

- Nonresident students whose traveling time would be less if attending a Connecticut community college than if attending a similar instate institution are permitted to attend the Connecticut institution at the NEBHE tuition rate, which is fifty percent above the resident tuition rate, pursuant to section 10a-67 of the general statutes, as amended.

- Nonresident students who wish to enroll in a Connecticut Community College degree program which does not exist in their home states are permitted to enroll in such program at the NEBHE tuition rate.

High School Partnership Program

Developed by the Board of Trustees of Connecticut Community Colleges, this program provides the opportunity for a junior or senior to experience college while still in high school. In order for a student to participate, his/her high school must have a partnership contract signed and on file with the college. The tuition and fees for students in this program are paid for by the Board of Trustees and apply toward the General Fund credit classes only. See your High School Guidance Counselor for more information.

Home-Schooled Students

Home-schooled students who have completed their high school program of study may be admitted as degree-seeking or non-degree seeking, full or part-time. Home-schooled students, like all new students, will be required to submit an application and required fee, verify graduation, take the College ACCUPLACER academic assessment and per state law, provide documentation that they have been immunized against Measles, Mumps and Rubella and Varicella.

Home-schooled students who do not have a high school diploma may still attend Gateway Community College but only as part-time, non-degree seeking students. All home-schooled students must demonstrate sufficient academic ability and complete the ACCUPLACER academic assessment test. Home-schooled students must meet with the Director of Enrollment Management or Associate Director of Admissions.

PAYMENT POLICIES

Bursar's Office: (203) 285-2009

Location: North Building Room N216

Hours: 8:15 a.m. to 4:15 p.m. Monday, Tuesday, Thursday, and Friday; 8:15 a.m. to 6:45 p.m. Wednesday

Miscellaneous: Cash, Checks, VISA, MasterCard and Discover Cards accepted at the Bursar's Window. A Drop Box for non-cash transactions is located adjacent to the Bursars Office. VISA, MasterCard, and Discover payments are also accepted online at http://my.commnet.edu.

When to Pay: Full payment is due at registration! Failure to pay may subject your registration to cancellation. While classes are routinely dropped for non-payment without prior notice, students who do not officially drop their courses will be responsible for the charges. Students who register on the web will not receive an additional invoice from the college.

Special Circumstances:

Early Registration: During the Fall and Spring regular academic sessions, you may hold your classes until the Tuition Due Date by paying your nonrefundable fees at the time of registration. If the full balance is not paid by the Tuition Due Date, your registration will be cancelled without notice and the non-refundable fees you paid will be forfeited.

Financial Aid and Loan Students:

•   As long as the amount of your authorized financial aid or loan is higher than your account charges you will not be dropped from your courses for non-payment.

•   You are strongly advised to carefully monitor the status of your financial aid/loan at http://my.commnet.edu. Please keep in mind that the formula for calculating your authorization amount takes into account the number of credits you are registered for and the authorization amount will be recalculated if you change your course load. Since it is not uncommon for a financial aid student to actually owe money to the college after dropping a course, you are also strongly advised to contact the Financial Aid Office at (203) 285.2030 before doing so.

•   You are responsible for paying any portion of your bill that is not covered by your financial aid authorization or loan. Additionally, you will be held immediately responsible for full payment of the total balance due regardless of when the change occurs 1) if your financial aid is not awarded; or 2) if your financial aid authorization amount is lessened for any reason, including reducing your course load; or 3) if your authorization is later rescinded.

•   **A FINANCIAL AID/LOAN APPLICATION DOES NOT GUARANTEE THAT YOU ARE ELIGIBLE FOR A FINANCIAL AID AWARD OR LOAN, NOR DOES IT EXEMPT YOU FROM PAYMENT.**

Third Party Voucher Payments: Vouchers are to be submitted to the Bursars Office at the time of registration to ensure that your registration is not dropped for non-payment. You will be immediately responsible for full payment of your account if your written commitment from a third party is not honored.

Past Due Accounts: You may not register for a future semesters until your account is paid in full. The College expects all students to meet their financial obligations prior to the start of each semester. However, if your account should become past due during the semester for any reason (i.e. a financial aid authorization change, late/missed installment plan payment, etc.) your account will be assessed a **$15 late payment fee** and the College will place a hold on your account that will bar you from registration and transcript services. This hold will remain in effect until your entire past balance is paid in full. The College will send an e-mail notification or an invoice, (or both) to your address on file in the Records Office. In addition your class schedule may be cancelled which may not result in any reduction of your charges. If these attempts to collect the debt are unsuccessful, your account will be placed with a collection agency and you may be held liable for the cost of collection.

Checks returned by the bank: Checks that are returned from a bank for any reason must be replaced with cash, money order or bank check within seven days (one week) of the college's receipt of notification by the bank. A fee of $25 will also be charged to the student's account. In addition your class schedule may be cancelled which may not result in any reduction of your charges.

Tuition Installment Payment Plan: GCC offers a Tuition Installment Payment Plan for students with accounts in good standing who are enrolled in six or more credits in the Fall and Spring semesters. Accounts are considered to be in good standing when they are paid in full for prior semesters in a timely fashion. To enroll see a Cashier in the Bursar's Office. The Installment Plan allows a student to defer payment of seventy-five percent (75%) of tuition charges for 45 days. Twenty-five percent (25%) of tuition and all other student charges (including nonrefundable fees) must be paid at the time of plan enrollment. The cost for the plan is $25. The balance of 75% of tuition charges will be due in full on the 45th day of the semester.

Student Responsibilities:

- If you change your course load after enrolling in a payment plan you are responsible for notifying the Bursar's Office of the change.

- If you add a class or classes you must amend your payment plan or pay in full in accordance with payment policies.

- If you drop a class or classes you must formally withdraw in the Registrar's Office or online in accordance with the published refund dates. Please note – depending on the date of withdrawal, the amount due on the installment plan may not change. Please refer to the College's Refund Policies or speak with a Cashier in the Bursar's Office for more details.

TUITION AND FEES – EFFECTIVE FALL 2013

Tuition and fees are established by the Board of Regents for Higher Education and are subject to change without notice. **Please refer to the http://www.commnet.edu/Finance/Tuition.asp for current tuition and fee rates.**

TUITION	2013 - 2014
Full-time Student (12 credit hours or more per semester)	
Connecticut Resident	$1,893.00
Non-resident	$5,659.00
New England Regional Student Program	$2,834.50
Part-time Student (Per credit hour through 11 hours per semester)	
Connecticut Resident	$140.00
Non-resident	$420.00
New England Regional Student Program	$210.00
Extension Fees (applies to Continuing Education credit programs(all terms), Summer Sessions and Winter Intersessions)	
Full-time Student (12 credit hours or more per semester)	
Connecticut Resident	$1,824.00
Non-resident	$1,824.00
New England Regional Student Program	$1,824.00
Part-time Student (Per credit hour through 11 hours per semester)	
Connecticut Resident	$152.00
Non-resident	$152.00
New England Regional Student Program	$152.00
Other Fees	
Full time Student (12 credit hours or more per semester)	
Student Activity Fee	$10.00

College Service Fee	
Connecticut Resident	$203.00
Non-resident	$609.00
New England Regional Student Program	$304.50
Part-time Student (Per Semester hour through 11 hours)	
Student Activity Fee	$5.00
College Service Fee - Connecticut Resident	
1 Credit	$71.00
2 Credits	$76.00
3 Credits	$82.00
4 Credits	$87.00
5 – 11 Credits	Varies ea. add'l credit
College Service Fee - Non-Resident	
1 Credit	$213.00
2 Credits	$228.00
3 Credits	$246.00
4 Credits	$261.00
5 – 11 Credits	Varies ea. add'l credit
College Service Fee - New England Regional Student Program	
1 Credit	$106.50
2 Credits	$114.00

3 Credits	$123.00
4 Credits	$130.50
5 – 11 Credits	Varies ea. add'l credit
SPECIAL FEES	
Academic Evaluation (Credit by Exam - per test)	$15.00
Portfolio Assessment	$50.00
CLEP Service Fee (Subject to change per CLEP Fee Schedule)	$15.00
Returned Check Charge	$25.00
Application Fee	$20.00
Late Registration Fee	$5.00
Late Payment Fee	$15.00
Liability Insurance Fee (charged once per year in the Spring)	$15.00
Program Enrollment	$20.00
Installment Plan Enrollment Fee	$25.00
Replacement Lost ID	$1.00
MANDATORY USAGE FEES	
Laboratory Fee (per registration in designated lab course)	$82.00
Studio Course Fee (per registration in designated studio course)	$88.00
Clinical Program Fee Level 1 (charged each fall & spring to students matriculated in Allied Health and Nursing programs)	$281.00
Excess Credits Tuition Charge (applies when total registered credits exceed 17 for the semester)	$100.00

Tuition and Fee Notes

Allied Health and Nursing students who pay Clinical Program fees are exempt from Laboratory fees for DMS, NMT, NSG, RAD, RDT, and RST lab courses. NTR students pay Laboratory Fees for NTR 210 and NTR 202.

Online/Distance Learning courses are charged Connecticut Resident Tuition rates.

No student who has an unpaid account at any state community college may register at that same college or any other state community college.

TUITION AND FEE WAIVERS

Senior Citizen Waivers for Individuals age 62 or Older: Application, Student Activity and College Service Fees are waived. In addition, a waiver of tuition is granted on a space available basis during the fall and spring semesters only when the registration occurs during or after the special registration session, held at the end of the regular registration period. Senior Citizens are responsible for paying all Lab and Studio fees at the time of registration. No Senior Citizen Waiver for tuition will be granted prior to the special session. Senior Citizen Waivers are not granted for classes offered through the Workforce Development and Continuing Education Division or for special fees. Waivers are requested at the Bursar's Office.

Veterans' Waiver: CGS 27-103 entitles a waiver of tuition for honorably discharged veterans who are Connecticut residents and who served on active duty for at least ninety (90) days during one of the following periods: World War II (12/7/41-12/31/46), Korean Hostilities (6/27/50-1/31/55), Lebanon Conflict (7/1/1958-11/1/1958), Vietnam Era (2/28/61-7/1/75), Operation Desert Storm (8/2/1990-present), or those engaged in combat or a combat support role in four (4) other specific military operations between 1982 and 1990. *Reservists and members of the National Guard who have been activated for 90 days or more can qualify for the tuition waiver.* The waiver applies to tuition (not to fees or for courses offered through the Division of Continuing Education) for credit courses taken in the fall or spring semesters. To be eligible for this waiver, the student must pay all fees and present a copy of his/her DD214 (discharge certificate) to the Long Wharf Cashiers Office in accordance with the College's Payment Policies.

National Guard Waiver: Under CGS section 10a-77, tuition is waived for any active member of the Connecticut Army or Air National Guard who is a Connecticut resident, certified by the Adjutant General or his/her designee as a member in good standing of the Guard and enrolled in a degree or certificate program. If the guard member receives tuition reimbursement from an employer, this waiver will be reduced by the amount of the reimbursement. The waiver applies to tuition (not to fees or for courses offered through the Division of Continuing Education) for credit courses taken in the fall or spring semesters. To be eligible for this waiver, the student must pay all fees and present a copy of the written Waiver from the Adjutant General to the Long Wharf Cashiers Office in accordance with the College's Payment Policies.

Dependent Children of POWs and MIAs: Under CGS section 10a-77, tuition is waived for any dependent children of a person declared by the U.S. Armed Forces as missing in action or a prisoner of war while serving in the Armed Forces after January 1, 1960, who was a resident of Connecticut at his/her time of entry into the Armed Forces or while serving. The waiver applies to tuition (not to fees or for courses offered through the Division of Continuing Education) for credit courses taken in the fall or spring semesters. To be eligible for this waiver, the student must pay all fees and present a proof of eligibility to the Long Wharf Cashiers Office in accordance with the College's Payment Policies.

REFUND POLICIES AND PROCEDURES

General Information: Refunds are automatically paid by check to the student at the end of the official Add/Drop period unless the student directs the Bursars Office otherwise. Checks are processed in Hartford and mailed to the permanent mailing address on file at the Records Office. Please verify your address when reducing your course load.

Courses Cancelled by the College: If the College cancels a course, a full refund of all charges (except application fee) will be issued unless the student selects a replacement course. Students who don't select a replacement course, will be sent a refund check via the mail within 45 days.

Return of Title IV Funds: The College maintains a fair and equitable refund policy as mandated by the U.S. Department of Education regulations. These refund and repayment rules apply only to students who withdraw completely and/or otherwise fail to complete the current period of enrollment. Please refer to the appropriate section in this catalog or speak with a Financial Aid Officer for more details.

Armed Service Enlistment: 100% refund of Tuition and Fees will be granted to any student who enters the Armed Services before earning degree credit in any semester, provided that he/she submits, in writing, a notice of withdrawal and a certified copy of enlistment papers.

Tuition and Fee Refunding Rules and Installment Plan Adjustments:

College Service, Student Activity, Installment Plan, Application, and other fees not listed below *are nonrefundable.*

Clinical Fees: Are nonrefundable unless a student completely withdraws or is not enrolled in any credit course at the end of the official add/drop period.

Allied Health and Personal Liability Insurance Fees: A curriculum change must be filed prior to the start of the term to be eligible for a refund of Allied Health/Nursing program and Personal Liability Insurance fees.

Tuition, Laboratory and Studio Course Fees: The student must officially withdraw either online or in the Records Office according to the schedule below to be eligible for a refund or a reduction of Installment Plan Charges.

• If the student completely drops from classes prior to the first day of the semester, a 100% refund of Tuition, Laboratory, and Studio Course Fees will be granted.

• If the student completely drops from classes on the 1st day through the 14th calendar day of the semester, a 50% refund of Tuition, Laboratory and Studio Course Fees will be granted.

• If the student completely or partially withdraws from classes after the first fourteen (14) calendar days of the semester, **NO** refund of Tuition, Laboratory and Studio Course Fees will be granted.

• If the student partially drops from classes on the 1st day through the 14th calendar day of the semester, a refund will be granted in the amount of 50% of the difference in Tuition, Laboratory and Studio Course Fees between the original and revised schedules.

• Please refer to the refunding table printed in the College Schedule for specific withdrawal deadlines applicable to abbreviated courses

Extension Credit Fees: A 100% refund of extension credit fees for courses offered by the Workforce Development and Continuing Education Division will be granted to students who officially drop up to the business day prior to the first day of class meeting. No refund will be granted once the class has met.

Policy Appeal Procedures: Students are required to officially drop/withdraw prior to submitting an appeal. Appeals will only be considered for the following extraordinary circumstances: severe illness documented by a physician's certificate; documented administrative error by the college; or military transfer documented by a copy of transfer orders. The following circumstances will not be considered: changes in employment situation; inability to transfer course; normal illness; transportation issues; poor decision or change of mind by the student regarding course selection; or dissatisfaction with course content or instructor. All appeals must be submitted in writing to the Refund Appeals Coordinator and include Banner I.D., contact information and appropriate documentation. Appeals must be received within 10 days of the official withdrawal date of the course to be considered. Appeals should be directed to the Refund Appeals Coordinator, Gateway Community College Business Office, 20 Church Street, New Haven, CT 06510 or e-mail gw-student payments@gatewayct.edu.

FINANCIAL AID

Telephone   **(203) 285-2030**

Gateway Community College is committed to providing access to higher education by minimizing economic barriers. The College provides several options for financial aid, including state and federal grants, scholarships, student loans, and the federal work-study program. Awards may come from one or any combination of the four preceding sources as determined by federal and local eligibility guidelines. Financial need, academic performance, and resources available to the student are all considered in determining final eligibility.

Students must have a high school diploma or a GED, be enrolled in an approved degree or one-year certificate program, and must maintain "satisfactory academic progress" as described in the Academic Policies and Procedures section.

Policies and regulations instituted by Title IV, Student Financial Aid Programs, and Gateway Community College require that a student's academic progress be monitored and measured to determine continuing financial aid eligibility. To maintain eligibility for financial aid, students must successfully complete two-thirds (66.66%) of their credits with Satisfactory Academic Progress (for additional information, please see the Student Handbook).

All financial aid awards are predicated upon available funds and subject to revision by the Financial Aid Office upon change in enrollment status, additional resources, scholarships, and/or lack of completion of necessary information to determine eligibility. All awards are based upon a student's enrollment status at the end of the add/drop period. Financial aid is disbursed twice per academic year: the first disbursement occurs during the fall semester and the second disbursement during the spring semester.

APPLICATION PROCESS

All students must file the Free Application for Federal Student Aid (FAFSA) to establish eligibility. Students may complete this form via the web application at http://www.fafsa.ed.gov. Upon receipt, the Financial Aid Office may request additional documentation to verify the authenticity of your application. Additional information may be found via the Gateway Community College homepage, GatewayCT.edu or mycommnet.edu .

Additionally, all males between ages 18 and 25 must register with the Selective Service System to be eligible for Title IV, Student Financial Aid (additional information on this program is located at http://www.sss.gov).

TYPES OF FINANCIAL AID

Federal Pell Grant Program

The Federal Pell Grant Program provides need-based grants to low-income undergraduate and certain post-baccalaureate students to promote access to postsecondary education. Grant amounts are dependent on: the student's expected family contribution (EFC) (see below); the cost of attendance (as determined by the institution); the student's enrollment status (full-time or part-time); and whether the student attends for a full academic year or less. Students may not receive Federal Pell Grant funds from more than one school at a time.

Financial need is determined by the U.S. Department of Education using a standard formula, established by Congress, to evaluate the financial information reported on the Free Application for Federal Student Aid (FAFSA) and to determine the family EFC. The fundamental elements in this standard formula are the student's income (and assets if the student is independent), the parents' income and assets (if the student is dependent), the family's household size, and the number of family members (excluding parents) attending postsecondary institutions. The EFC is the sum of: (1) a percentage of net income (remaining income after subtracting allowances for basic living expenses and taxes) and (2) a percentage of net assets (assets remaining after subtracting an asset protection allowance). Different assessment rates and allowances are used for dependent students, independent students without dependents, and independent students with dependents. After filing a FAFSA, the student receives a Student Aid Report (SAR) via regular mail or email, which notifies the student if he or she is eligible for a Federal Pell Grant, provides the student's EFC, and may request changes to be made to the application for accurate processing.

Federal Supplemental Educational Opportunity Grant

The FSEOG Program provides need-based grants to low-income undergraduate students to promote access to post-secondary education. Institutional financial aid administrators at participating institutions have substantial flexibility in determining the amount of FSEOG awards to provide students who are enrolled or accepted for enrollment. Priority is given to those students with "exceptional need" (those with the lowest EFCs at the institution) and those who are also Federal Pell Grant recipients.

Federal Work-Study Program

This program provides jobs for students who receive financial aid. Its purpose is to provide funds to allow employers to hire enrolled students. This part-time employment may either be on the College campus or in a public/private non-profit organization. Students may work a maximum of 15 hours per week while attending classes. If funds are available, eligible students may work a maximum of 25 hours during vacation periods. Students interested in this program should contact the Financial Aid Office.

William D. Ford Federal Direct Loan Program

These fixed-rate loans, guaranteed by the federal government, are available to students who apply for financial aid using the FAFSA. The application process must be initiated through the Financial Aid Office. Payment on the principal is not required until 6 months after the student leaves school, as long as the student remains enrolled at least (six credits) half-time. There are two types:

Subsidized Federal Stafford Loan

Subsidized Stafford Loans are need-based loans. The government will pay the interest on the loan to the lender while the student is enrolled at least half-time and during other authorized periods called "deferments". The interest rate on this type of loan is currently fixed at **3.4%**

Unsubsidized Federal Stafford Loan

Unsubsidized Stafford Loans are available to students who do not qualify for need-base loans, or who qualify for less than the annual maximum of Subsidized Stafford Loan. The government does not pay the interest to the lender; the student can choose to either pay the interest while in school, or have the interest added to the loan principal to be repaid later. The interest rate on this type of loan is fixed at **6.8%**.

Loan Origination Fees

Lenders are authorized to charge borrowers loan fees, at the discretion of the lender, which will be deducted proportionately from each loan disbursement. Revenue from these fees are passed on to the federal government to help reduce the government's cost of providing these loans. Students and parents who borrow Stafford or PLUS loans should consult their chosen lender to determine fees that will be assessed.

Capitol Scholarship Program

This scholarship program is available to qualified students who are residents of Connecticut and who plan to enroll as full-time students in an institution of higher education in Connecticut or a state where there is reciprocity. Further information is included on the application form, which should be obtained from the secondary school attended by the applicant. Persons not currently enrolled in a Connecticut secondary school may obtain applications from the state Department of Education, P.O. Box 2219, Hartford, CT 06115.

Community College Grants

These funds are allocated to the College by the State of Connecticut and are awarded based on financial need and available funds.

Connecticut Aid to Public College Students

These funds are allocated to the College by the State of Connecticut and are awarded based on financial need and available funds.

RETURN OF TITLE IV FUNDS

The College maintains a fair and equitable refund policy, as mandated by the US Department of Education regulations. These refund and repayment rules only apply to students who official withdraw completely and/or otherwise fail to complete the current period of enrollment with an earned grade **(unofficially withdrawn)**.

Federal Title IV regulations require the calculation of the return of Title IV Funds that are not earned by the student in a given semester. These regulations require the College to determine the amount of the return based on the following considerations:

1. Official date of withdrawal;

2. Total number of days in the semester;

3. Percentage of Title IV funds earned and unearned; **(50% if unofficially withdrawn)**

4. Amount of funds to be returned by the student.

The College will notify the student within thirty (30) days of the determination of return of funds. The student has forty-five (45) days to retain the Title IV eligibility by returning the amount on full or making satisfactory arrangements to repay the funds to the US Department of Education. Failure of the student to do either within the forty-five (45) days obligates the College to report the overpayment to the US Department of Education. Subsequently, the student will lose eligibility for Title IV funds on the 46th day.

ORDER OF RETURN OF STUDENT FINANCIAL AID PROGRAM FUNDS

Funds credited to outstanding loan balances for the repayment period of enrollment for which a return of funds is required, must be returned in the following order (not to exceed the original enrollment from each source):

1. Direct Unsubsidized Stafford Loans (other than PLUS loans)
2. Direct Subsidized Stafford Loans
3. Federal Pell Grants for the payment period which a return of funds is required
4. Federal Supplemental Educational Opportunity Grants (FSEOG) for the payment period due which a return of funds is required.

SATISFACTORY ACADEMIC PROGRESS POLICY FOR STUDENT FINANCIAL AID RECIPIENTS

A student receiving Federal Title IV financial aid or other financial aid directly administered or certified by the college must maintain satisfactory academic progress towards the completion of a certificate or degree program of study. Satisfactory academic progress for financial aid recipients is measured by using a quantitative and qualitative standard and is an assessment of a student's cumulative academic record at the college.

A student must successfully complete two-thirds (66.66%) of the credits (earned credits/attempted credits) s/he attempts. All attempted credits resulting in either an academic grade or administrative transcript notation will be included in the quantitative calculation. Incomplete courses, course withdrawals, course repetitions, noncredit remedial courses (with appropriate credit equivalency evaluation), and ESL courses will also be included in this assessment. Transfer credits will be counted as both attempted and earned credits in the calculation for determining satisfactory academic progress.

A student must also maintain a cumulative minimum grade point average (qualitative standard) as noted below in order to be making satisfactory academic progress and be eligible to receive financial aid.

Earned Credits	Minimum GPA
≤ 15.99	1.50
≥ 16.00	2.00

A student's cumulative academic history will be evaluated at the end of each enrollment period and prior to the subsequent term's financial aid disbursement. This policy will be used to evaluate all students; regardless of their enrollment level.

Maximum Credit Hours

A student may receive financial aid for any attempted credits in his/her program of study that do not exceed 150% of the published length of the student's educational program at the college. For example, a student enrolled in a 60-credit degree program may receive financial aid for a maximum of 90 attempted credit hours. Similarly, a student enrolled in a 30-credit certificate program may receive financial aid for a maximum of 45 attempted credit hours. Any attempted credits at the college must be included in the calculation. The 150% maximum credit hours rule is applicable to students who change majors or who pursue a double major.

Repeated/Audit Coursework

Financial aid recipients are limited to one repetition of a previously passed course in their program of study. A second repetition of a previously passed course will not be eligible for financial aid payment. Audit courses are not financial aid eligible.

Financial Aid Warning

Any student who fails to meet the minimum satisfactory academic progress standard will be placed on Financial Aid Warning. The Warning period will be the student's next semester or period of enrollment at the college. The college will communicate the Warning status to the student and inform the student that s/he must meet the academic progress standard by the end of the subsequent enrollment period in order to maintain eligibility to participate in the financial aid programs at the college.

Termination

Any student who fails to meet the minimum satisfactory academic progress standard at the end of the Warning period will become ineligible from the financial aid programs at the college. The college will communicate the Termination status to the student and inform the student of the available Reinstatement and Appeal Process.

Reinstatement Policy

A student's financial aid eligibility will be automatically reinstated at such time as the student meets the minimum satisfactory academic progress standard. Reinstatement to the financial aid programs may also occur upon a successful appeal by the student (see Appeal Process below).

Financial Aid Probation

Any student who fails to meet the minimum satisfactory academic progress standard at the end of the Warning period will become ineligible from the financial aid programs at the college. Ineligible students have the opportunity to file an appeal regarding their termination from the financial aid programs. Students that have failed the academic progress standard and have been approved with a successful appeal will be considered on Financial Aid Probation.

Appeal Process

A student may request consideration for reinstatement to the financial aid programs through the following Appeal Process:

If the student feels his/her failure to meet the minimum satisfactory academic progress standard was the result of an unusual or extraordinary situation that affected successful progression, the student may appeal to the Financial Aid Office. Some personal mitigating circumstances could include illness or injury of the student or dependent of the student; a death in the family; or other undue hardship as the result of special circumstances. An appeal form is available in the Financial Aid Office.

The student must: 1) explain the extenuating circumstances causing the non-compliance; 2) substantiate it with third party documentation, (i.e. letter from the doctor who treated the student); and 3) give a detailed explanation of specifically what has changed that will allow satisfactory progress to be demonstrated at the next evaluation.

Should an appeal be approved and the student is not mathematically able to return to satisfactory academic progress at the conclusion of subsequent enrollment period, a Financial Aid Administrator will devise and appropriate academic plan for the upcoming semester with the student. For example the terms of an academic plan may be as follows:

Should an appeal be approved and the student is not mathematically able to return to satisfactory academic progress at the conclusion of subsequent enrollment period, a Financial Aid Administrator will devise and appropriate academic plan for the upcoming semester with the student. For example the terms of an academic plan may be as follows:

Register and successfully complete all credits with a minimum term GPA of 2.0 or better.

At the end of the semester, grades will be evaluated. If the student has met the required terms of the academic plan, the student may continue to receive financial aid the following semester. If the student fails to meet the terms of the academic plan in any subsequent semester, the student will become ineligible to participate in the financial aid programs until the student is able to once again meet the minimum requirements for academic progress. The student's progress will continue to be monitored at the end of each semester with the same terms in place until the student is in compliance with Connecticut Community Colleges' satisfactory academic progress policy.

INCOMPLETE GRADES

Financial aid students must complete all grades of Incomplete (I) prior to the beginning of the subsequent semester. Eligibility for continued financial aid will be determined only after the receipt of grades.

WITHDRAWAL FROM SCHOOL

In general, if a recipient of the Student Financial Aid Assistance program withdraws from a school during a payment period or during a period of enrollment in which the recipient began attendance, the school must calculate the amount of federal funds the student did not earn. Those funds must be returned (see Return of Title IV Funds).

If the school determines that a student did not begin the withdrawal process or otherwise notify the school of the intent to withdraw due to illness, accident, grievous personal loss, or other circumstances beyond the student's control, the school may determine the appropriate withdrawal date.

If the student registers for classes but never attends, the student is responsible for all charges incurred.

SCHOLARSHIPS

Foundation Scholarships

Scholarships are available through the Gateway Community College Foundation, Inc., which was formed to assist the College in expanding its services to students and enhancing academic instruction. The Foundation also helps the College to invest in Connecticut's future by providing resources and through advocacy.

The Foundation awards and administers various scholarships in compliance with the policies of its board of directors or at the request of the benefactor. Scholarships are awarded each spring semester to students for use in the following academic year. The GCC Foundation scholarship application is made available online during the spring semester beginning in February. Students can visit gatewayct.academicworks.com to see the list of scholarships available and sign in to apply. For more information, call (203) 285-2617.

Scholarships are available for all students including program-specific scholarships in the Engineering Technology programs, health care and sciences.

SCHOLARSHIPS INCLUDE:

Philomena M. Abell Scholarship	Pfizer Science/Math Scholarship
Alumni Association Scholarship	Melissa Pringle Scholarship
Anthem Blue Cross and Blue Shield Scholarship	Regional Water Authority Scholarship
AT&T Scholarship	Jason Richardson Scholarship
Atluru Family Foundation Scholarship	RnB Enterprises Scholarship
Margaret Bauer Business Scholarship	RWA: Kathryn M. Bevan Memorial Scholarship
Michael Cannella Scholarship	David Servin Scholarship
CASA/SME Scholarship	Shaw's Coca-Cola Scholarship
Annie E. Casey Foundation Scholarship	Charles and Ann Robinson Scholarship
Frederick A. DeLuca Foundation Scholarship	Margaret McAllister Spain Scholarship
Todd Dogolo Scholarship	Donald J. McCarthy, Jr. Scholarship
Richard Fiore Scholarship	Fred W. McKinney Scholarship
First Niagara Scholarship	Michael Murphy Scholarship
Stan Fivekiller Memorial Scholarship	Leah and Milton Nevitt Scholarship
G-MEN Scholarship	Francis S. Noonan Scholarship
Rose Guerrera Scholarship	North Haven Rotary Foundation Scholarship
Hotel & Food Service Management Scholarship	Carmen Parlato Scholarship
Human Services Scholarship	Cheryl Anderson Pegues Scholarship
Ted and Joan Hyatt Scholarship	Petraiuolo Family Scholarship
Marion Pacelli Iovieno Scholarship	Jan Trifiatis Scholarship
Frank Adam Jurczyk Scholarship	Villa Bianca Scholarship
Laptop Scholarship	Walmart Scholarship
Larry Laukhuf Scholarship	Williams Service-Learning Scholarship
Liberal Arts Scholarship	Norman Wuestefeld Scholarship
Liberty Bank Foundation Scholarship	Yale-New Haven Hospital Scholarship
Susan Moore Lincoln Scholarship	Yale University Scholarship
Marie Marinaccio Scholarship	

NewAlliance Foundation, through a generous endowed gift, has established NewAlliance Fellows to be awarded to the two students with the highest GPA accepted into an Allied Health program and into the Nursing program. Awards will cover tuition and fees for the fall and spring semesters following selection.

Pfizer Science and Math Scholarships for students from select New Haven high schools (Hillhouse, Wilbur Cross, and Career) are available for students entering Gateway. These scholarships provide $3,000 to each recipient to cover educational costs.

Scholarship awards are subject to change.

ACADEMIC POLICIES AND PROCEDURES
REGISTRATION

Fall and spring registration dates are established each semester for new and returning students. While every effort will be made to meet the educational needs of each student, registration is conducted on a seat-available basis. Courses listed in the catalog will not necessarily be offered every semester. The College reserves the right to cancel course offerings for budgetary reasons or because of lack of enrollment. Every attempt will be made to notify students if a selected course has been cancelled.

The College offers credit and credit-free instruction during its winter intersession, which runs from late December through early January, and during summer sessions. The exact dates of the winter intersession and summer sessions may be found in the appropriate course schedules that are mailed to area residents, distributed through the Registrar's Office, and online at: **GatewayCT.edu** or **http://www.online.commnet.edu**. Courses are open to all Gateway Community College students, students from other colleges, and any interested adults.

CROSS-REGISTRATION

Tuition and fees for students who register for general fund/tuition account courses at multiple colleges within the community college system shall be charged as follows:

A. **Full-time Students** – Students who have paid full-time student tuition and fees at their "home" institution shall be exempt from further charges. Copies of the student's tuition and fee receipt from the "home" institution should be accepted by the "host" institution in lieu of payment.

B. **Part-time Students** – The charges for students who have paid part-time student tuition and fees at their "home" institution and register for additional courses at the "host" institution shall not exceed the amount charged for a full-time student, if the student's combined registration at the "home" and "host" institutions would classify them as a full-time student. Copies of the student's tuition and fee receipt from the "home" institution should be accepted by the "host" institution, and the "host" institution should charge the difference between full-time tuition and fees and the amount paid to the "home" institution as indicated on the "home" institution receipt. The "host" institution must notify the "home" institution of the multiple college registration. Any change in student status that would warrant a refund of tuition and fees will be based on the combined registration at the "home" and "host" institutions. Students who register at multiple colleges whose combined student status is less than full-time shall be charged as a part-time student for the semester credits registered at each of the respective colleges.

CHANGE OF ADDRESS, EMAIL ADDRESS, OR NAME

If you change your address, your email or your name, please notify the Registrar's Office immediately. It is of the utmost importance that the college have the most up-to-date contact information on record. Failure to keep your information current is likely to result in delays in receiving grades and other official correspondence from the college. If you are a current student and not employed by the Community College System, name change requests must be submitted in person to the appropriate office at your college accompanied by Official Photo Identification and a Certified Copy of one of the following:

- Probate Court Decree ordering a name change
- Superior Court Order dissolving a marriage and explicitly ordering restoration of
- the name of a party
- District Court Order associated with an immigrant becoming a U.S. Citizen
- Marriage License.

NOTE: "Certified Copy" refers to an original decree, Order, or License with raised gold seal or other stamp providing indicia of authenticity, including contact information for the issuing authority.

CHANGING YOUR CLASS SCHEDULE

You are urged to seek advice from an academic advisor if you have any questions about changing your classes. Making changes to your course load or schedule without consulting an advisor may slow progress toward your educational goals. However, the permission of an advisor is not required to change sections of the same course.

To add or drop a course, or change to another section of the same course, you must complete the Add/Drop procedure. (See "Add/Drop Procedure".)

ADD/DROP PROCEDURE

Add/Drop forms are available in the Registrar's Office and in the Counseling Center. To add or drop a class you must complete and sign the appropriate form during the Add/Drop period, which is published in the current semester schedule. Please note the following procedures:

- Submit the Add/Drop Form to the Registrar's Office during the specified hours, which are posted.
- If there is a seat in the class that you wish to add, you will be entered into the class.
- The signature of an academic advisor or faculty is required for additional courses, but not for time changes.
- You may not register for a closed course without the written permission of the instructor.
- Drop slips must be submitted to the Registrar's Office during the published time frame and do not require an advisor's signature.
- If you drop a course prior to or during the first fourteen (14) calendar days of a semester, you are entitled to removal from the official class roster and the course will not appear on your official transcript.

Please note: Payment is due when a course is added. If no payment is made, the student will be disenrolled from the course. The add/drop dates are strictly enforced; no add/ drops are accepted after the deadline published in the course schedule.

CHANGING YOUR DEGREE PROGRAM

If you wish to change enrollment from one degree program to another (e.g., from General Studies to Liberal Arts), you should obtain a Change of Curriculum form from the Counseling & Student Success Center, Room N213.

To change your degree program, you are required to see a counselor who will explain the procedures for changing your program. (A coordinator's signature is required for several programs; please see the Change of Curriculum form for specifics.) Once signed and approved, the completed Change of Curriculum form must go to the Registrar's Office to be processed. The title of your new program will appear on your transcript. Follow the same procedure if you wish to add a second program of study.

To change from non-degree status to a degree program, a student must provide verification of high school completion and immunization.

SEMESTER HONORS

- Full-time students who are matriculated in a certificate or degree program and who successfully complete 12 or more credits of work in a semester with a grade point average of 3.4 or higher shall be recognized by having their names placed on a Dean's List.
- Part-time students who are matriculated in a certificate or degree program are also eligible for such recognition when they have completed 12 or more credits of work with a cumulative grade point average of 3.4 or higher. They may be subsequently recognized at the completion of an additional 12 or more credits of work with a cumulative grade point average of 3.4 or higher, and at successive intervals of 12 credits.

- A course Withdrawal or Incomplete shall make the student ineligible for Dean's List recognition that semester. Upon completion of the Incomplete, the student may be recognized retroactively.

- Students who are in a probationary status are not eligible for Dean's List recognition, even if their cumulative grade point average might otherwise make them eligible.

GRADUATION HONORS

Students with exemplary academic performance shall be recognized at graduation with the following designations:

- Highest Honors for students with 3.9 – 4.0 grade point average

- High Honors for students with 3.7 – 3.89 grade point average

- Honors for students with a 3.4 – 3.69 grade point average

Students with an Incomplete may become eligible retroactively for graduation honors upon completion of the course requirements. Recognition shall appear on the transcript, provided that the student has earned the required grade point average.

Phi Theta Kappa International Honor Society

Gateway Community College has an active chapter of the Phi Theta Kappa Honor Society. Phi Theta Kappa is the honor society of two-year colleges. Students are invited to join the Alpha Xi Theta Chapter, as full members if they have completed at least 12 associate degree credits at Gateway and have a Grade Point Average (GPA) of at least 3.5. Qualified students are inducted into the Honor Society during the Phi Theta Kappa Installation Ceremony held each fall and spring. Alpha Xi Theta also accepts provisional members with less than 12 associate degree credits at Gateway or students with 12 associate degree credits at Gateway and have a Grade Point Average (GPA) of at least 3.3.

STATEMENT ON ACADEMIC SATISFACTORY PROGRESS

- The grading system employed by each college should accurately reflect the academic achievement of the student. In order to ensure appropriate use of state resources available for the education of its citizens, each college will develop procedures to monitor satisfactory progress through its warning, probation, and suspension policy.

- This policy shall be applicable to all students enrolled in developmental and/or credit courses, no matter the number of credits for which they are enrolled.

- No course may be repeated for credit more than twice. The highest grade received will be used in calculating the student's academic average. This does not apply to those courses that are designed to be repeated for additional credit.

- Satisfactory completion of fifty percent of the credits attempted (this phrase means actual continued enrollment beyond the add/drop period) will be the minimum standard for good standing.

ACADEMIC WARNING

- Students who have completed 11 or fewer credits whose Cumulative Grade Point Average (CGPA) falls below 1.5 will be given a written warning. Students who have completed between 12 and 30 credits inclusive whose CGPA falls below 1.7, and those who have completed 31 or more credits whose CGPA falls below 2.0, will be given a written notice that they are placed on academic probation.

ACADEMIC PROBATION

- Students placed on academic probation will be required to take a reduced course load for one semester.

- College procedures will be included in appropriate publications and communications.

ACADEMIC SUSPENSION

A suspended student must wait at least one (1) semester before applying for readmission.After academic suspension, readmitted students who wish to enroll again must comply with the following criteria: (a) receive counseling, (b) acquire a "C" average in courses attempted during given semester in order to show academic progress and (c) be limited to a maximum of two (2) courses until a 2.0 accumulative GPA is achieved. The appeals process is initiated through the Counseling and Student Success Center. If not satisfied with that decision, the student may initiate an appeal to the Dean of Academic Affairs.

ACADEMIC INTEGRITY

At Gateway Community College we expect the highest standards of academic honesty. Academic dishonesty is prohibited in accordance with the Board of Regents' Proscribed Conduct Policy in Section 5.2.1 of the Board of Trustees' Policy Manual. This policy prohibits cheating on examinations, unauthorized collaboration on assignments, unauthorized access to examinations or course materials, plagiarism, zero tolerance for threatening, intimidating, and violent behavior, and other proscribed activities. Plagiarism is defined as the use of another's idea(s) or phrase(s) and representing that/those idea(s) as your own, either intentionally or unintentionally. (Excerpted from the Board of Trustees Policy 5.2.1, amended 2/26/90).

In addition, at Gateway Community College, unauthorized use of any electronic device to convey information during examinations and all other forms of assessment is considered academic dishonesty.

ACADEMIC STANDARDS

A student with a GPA of 2.0 or higher is considered in Good Standing. Only students in Good Standing may register as full-time.

To remain eligible for continuation of studies, students must maintain a cumulative grade point average (GPA) equal to or above the minimum stated in the Academic Standards criteria for the number of credits they have completed.

11 or fewer credits with less than 1.5 GPA	Written Warning
12 - 30 credits inclusive with less than 1.7 GPA	Written Notice of Academic Probation – Reduced Course Load
31+ credits with less than 2.0 GPA	Written Notice of Academic Probation – Reduced Course Load
31+ credits with one semester probation earning less than 2.0 PGA	Written Notice of Academic Suspension

COURSE LOAD

A full course load will normally consist of four to five courses, 12 credits or more depending upon the student's major and degree of academic preparedness. Students wishing to take more than the normal course load for their major during the second or subsequent semester may, provided they have maintained an average of 3.0 or better during the preceding semester, register for one additional course upon the recommendation and approval in the Counseling and Student Success Center. All appeals regarding course load must be made to the Dean of Student Affairs.

COURSE SUBSTITUTION

The substitution of a course requirement with another similar course must receive permission from the appropriate department chairperson, program coordinator or the Dean of Academic Affairs. A Course Substitution Form must be completed with the appropriate department chair or program coordinator's signature.

GRADES

All colleges will use the same system of values for grades awarded. Values to be used for all calculations of grades, averages, and related matters, are as follows:

A	4.0	C	2.0		Temporary Grade: I - Incomplete	
A -	3.7	C-	1.7		Administrative Trasnscipt Notations:	
B +	3.3	D+	1.3	AU	Audit	
B	3.0	D	1.0	N	No Grade	
B -	2.7	D-	0.7	P	Pass	
C +	2.3	F	0.0			

The Grade Point Average (GPA) shall be calculated to two decimal places, based on quality points and the number of credits attempted.

To determine the number of quality points earned in a course, a student's numerical grade is multiplied by the number of credits associated with the course (semester hours). The total of all quality points earned by a student is then divided by the total number of credits attempted. The result is the student's GPA. Reports of the final grades for the semester may be obtained online through My Commnet at www. mycommnet.edu.

Students enrolled in non-credit courses through Corporate and Continuing Education are awarded Continuing Education Units (CEUs) on a Pass/Fail (P/F) basis.

Temporary Grade

I - Incomplete

1.   An Incomplete is a temporary grade assigned by the faculty member when coursework is missing and the student agrees to complete the requirements. Although a student may request an Incomplete, the faculty member is not required to honor the request. The faculty member should assign an Incomplete when there are extenuating circumstances such as illness that prevent a student from completing the assigned work on time and the student has completed most of the course requirements and, in the judgment of the faculty member, the student can complete the remaining work within the time limit established by system policy.

2.   A faculty member who assigns an Incomplete shall file a system report form that includes:

    (a)   a brief description of the requirements to be completed;

    (b)   the date by which the coursework must be submitted to the faculty member, which is the end of the tenth week of the next standard semester;

    (c)   a statement that the Incomplete will change to a specified letter grade if the work is not completed by the end of the tenth week of the next standard semester.

    The faculty member shall keep the original signed form, with copies to the student, the academic dean, the registrar, and such other appropriate parties as the college may identify.

3.   All Incompletes must convert to a letter grade by the end of the following semester. If a student submits the required work on time, the faculty member shall calculate a grade to replace the Incomplete and submit it to the registrar by the end of the semester. If a student fails to complete the required work or fails to submit the work by the specified time, or if the faculty member fails to submit a replacement grade, the registrar shall convert the Incomplete to the letter grade specified in the report form, and that letter grade shall be entered on the student transcript.

4.   Students with an Incomplete are temporarily ineligible for semester or graduation honors. Upon conversion of the Incomplete to a letter grade, students may retroactively receive semester or graduation honors, and such recognition shall appear on the transcript, provided that the student has earned the required grade point average.

    Students in a Allied Health or Nursing program (Diagnostic Medical Sonography, Fitness Specialist, Nuclear Medicine, Radiation Therapy, Radiography) must complete all required course prerequisites before registering for any program-specific math, science, and/or Allied Health or Nursing courses.

Administrative Transcript Notations:

"AU" - Audit

An administrative transcript notation for students auditing a course.

Students not wishing credit may audit a course. This status will allow them to participate in class activities without being required to meet the examination requirements of the course. Students may ask to have papers critiqued, but faculty members are not required to grade an auditor's course work. Full tuition and fees are charged for courses audited. A student who wishes to change from credit to audit status must request this within the first four weeks of the course, using such forms and procedures as the college may prescribe. Students auditing a course may not change to credit status.

Audited courses may be repeated in a subsequent semester for credit by re-registering and paying the appropriate tuition and fees. The structure of the course should not be altered in consideration of the number of students auditing the given course.

"N" - No Grade

The "N" grade is used only when a student has failed to complete any of the course objectives so that it is impossible to evaluate the student on the basis of performance. The "N" grade is not used in place of an earned failing grade.

"P" - Pass

An administrative transcript notation for successful completion of courses taken on a pass/fail basis. Students failing will receive a grade of "F".

With the permission of the instructor, a student may take an elective course on a Pass/Fail basis. Any student who has satisfactorily completed at least 12 credits may take advantage of the Pass/Fail option. The student must notify the Records Office in writing of this intent no later than one week following the Add period. Upon completion of the course, the student will receive a grade of "P" or "F." No other grade will be reported. The "Pass" grade will entitle the student to an appropriate number of academic credits toward graduation. A "Pass" will not be computed in the student's quality point average (GPA). Only one academic course may be taken under the Pass/Fail option during a semester.

All clinical courses in the Radiologic Technology programs are offered only on a pass/fail basis.

"TR" - Transfer

An administrative transcript notation in lieu of grades for courses accepted for credit from other colleges and universities.

"W" - Withdrawal from a course

An administrative transcript notation used to indicate that a student is withdrawn from a course in accordance with the procedures prescribed by the college.

Students who withdraw officially from semester credit courses through the Records Office within the first fourteen calendar days of the fifteen-week semester will be removed from class rosters. Students withdrawing after the first fourteen calendar days but before the end of the tenth week will receive a grade of "W". A student with a grade of "W" will be ineligible for academic honors for that semester.

During the Summer/Winter sessions, students who withdraw prior to the first day of the credit course will receive no grade for the course. Generally, if a student withdraws after the first class and prior to the last date of withdrawal for each Summer/Winter session, the student will receive a grade of "W". Please consult the Records Office. Students are encouraged to carefully read the academic calendars for each Summer/Winter session.

After the above deadlines have passed, withdrawal from a course may be granted and recorded on the student's permanent record as "W" if extenuating circumstances are found to justify the withdrawal.

"W" grades are not computed in the quality point average. If a student stops attending class, however, and fails to officially withdraw from the course, the instructor may issue a grade of "F".

"F" grades are calculated in the quality point average. To be official, all withdrawals must be received and processed by the Records Office.

"*" - Grades with an asterisk"*" (before the Fall 2004) or **"^" -** Grades with a carrot "^" (starting with the Fall 2004)

These administrative transcript notations indicate the Fresh Start Option has been invoked. Those grades will not be calculated into the student's GPA, but any course in which the student received a grade of C- or above can be used to satisfy graduation requirements.

"#" - Grades with a pound sign "#"

This administrative transcript notation indicates the courses are developmental and do not carry any credit for graduation nor are calculated into the student's GPA.

Instructor-Out Hotline: 866-315-2769

To check if your instructor is going to be absent, you may call the hotline prior to class. If a faculty member is going to be late or cannot meet due to an emergency, he or she should make every effort to inform you. Many faculty members will notify you during the first class sessions about how such situations will be handled. In the event that a faculty member is more than 20 minutes late arriving for class, you may:

• Go to the Dean of Academic Affairs (N311), the Evening Administrator (S215) or the office of the department chair for that academic area for guidance.

• Circulate an attendance sheet with the course number and section for each student to sign and submit it to one of the officials above. You are free to leave if you have received no other directions.

FACULTY OFFICE HOURS

Faculty members are willing to meet with you to discuss individual concerns or to provide assistance. At the beginning of the semester, each of your instructors will provide you with his or her office hours, office location and phone number. If you want to consult a faculty member, it is best to make and keep a specific appointment. You can, however, stop by the faculty member's office during his or her listed hours.

ATTENDANCE

By enrolling in classes at Gateway Community College, you accept responsibility to take full advantage of your educational opportunity via regular attendance in your scheduled classes and laboratories. The college, therefore, does not administer a uniform system of monitoring attendance. For purposes of record keeping, all instructors keep their own attendance records.

At the beginning of each semester, each instructor will delineate clearly the expectations necessary for the successful completion of the course. All students are expected to meet the academic obligations outlined in the syllabus, or to assume the risks incurred by failure to do so.

ENROLLMENT STATUS

Degree students are those who have satisfied admission requirements and are enrolled in a planned program of study that will result in a certificate, Associate in Arts, Associate in Science, or Associate in Applied Science degree. Non-degree students take courses but do not wish to be enrolled in a planned program of study leading to a certificate or degree. Any student may apply to a degree program at a later time. For instructions on how to do so, please refer to the regular application procedures.

Full-time students enroll for 12 credits or more. Part-time students enroll for 11 credits or less. Full-time students may take a fifth credit class. Students registering for more than 17 credits must pay a nominal fee of $100.

FRESH START

1. Colleges shall have a policy called Fresh Start, which will allow students who have not attended college for a period of two or more years and who have a poor academic record to refresh their Grade Point Average (GPA) and develop a more favorable academic record. Students accepted for enrollment under Fresh Start will meet with a designated college official to determine their academic status for re-entry into the college.

2. All grades previously earned will remain on the student's transcript. The semesters for which Fresh Start is invoked will include a transcript symbol indicating that the policy is in effect. The original GPA will not be included in any subsequent computation of the new GPA. If the Fresh Start option is approved, the student will receive credit for courses with a grade of C-minus or above, including "P" (Pass).

3. The Fresh Start option can be used only once.

4. The Fresh Start option does not apply to any completed degree or certificate.

5. A student must complete a minimum of 15 credits after returning to college under the Fresh Start option to be eligible for a degree or certificate, and for graduation honors.

6. Each college is responsible for developing its own procedures for managing Fresh Start, including where and how the student applies, what forms are used, who approves the application, and how the student's progress is monitored.

WITHDRAWAL FROM INDIVIDUAL COURSE(S)

If you wish to withdraw from a course, you should understand the policies outlined below.

• **DO NOT SIMPLY STOP ATTENDING CLASSES**. Students who stop attending classes rather than officially withdrawing from a course may be subject to probation, suspension or dismissal. This has a permanent impact on your official college transcript.

• You are encouraged to speak to an advisor or counselor before withdrawing from a course. To withdraw from a course, obtain a Withdrawal form from the Registrar's Office or the Counseling & Student Success Center. In addition, please note the following policies:

• A student who wishes to withdraw from individual course(s) may do so up to the tenth week of class. After the tenth week, and prior to one week before the last day of classes, withdrawals are permitted only with the signature of the instructor.

• All decisions may be subject to the appeal process as stipulated in the Student Grievance Procedure in the Student Handbook on Page 114.

• If you withdraw from a course after the ADD/DROP period, you will receive a grade of "W" in each course.

WITHDRAWAL FROM THE COLLEGE

A student who wishes to withdraw from the College may do so at any time during the semester by contacting the Records office or the Counseling Office and completing the withdrawal process. A grade of "W" will be given for each course not completed at the time of withdrawal. A student must complete a readmit application if he/she desires to return to the College after a two-year time period.

REPEATING A COURSE

No course may be repeated more than twice. If a course is repeated, the highest grade received will be used in calculating the student's academic average. This does not apply to courses that are designed to be repeated for additional credit.

INDIVIDUALIZED INSTRUCTION

Students and instructors may arrange for individualized instruction in a catalog course not offered in a given semester. An Individualized Instruction Permission form shall be completed and signed by the student, the instructor, and the Department Chair. This form, available in the Records Office, may be submitted during registration but no later than the end of the Add/Drop period.

INDEPENDENT STUDY

Independent Study provides special opportunities beyond the course offerings of the catalog. To be eligible, a student's cumulative grade point average must be 3.0 or better.

Interested students must fill out an Independent Study form, describing the objective(s), justification of the study, nature of the learning outcomes, learning methodology, and evaluative criteria. After the form has been completed, it must be signed by the instructor and the student. The student must then submit the form to the Office of Dean of Academic Affairs for final approval. The student must also obtain an Add slip from the Registrar's Office or the Counseling & Student Success Center, in order for the study to appear on the student's record. Upon completion of the independent study, a brief written evaluation will be attached to the student's permanent record. This evaluation will be submitted to the Registrar with the grade report.

Students shall be limited to three (3) Independent Studies at GCC. Only one (1) Independent Study may be taken per semester. No Independent Study may begin in the student's first semester.

TECHNOLOGY STATEMENT

Success in personal, academic, and work environments requires the acquisition and use of information and technological literacy skills. The Connecticut Community College system is committed to providing experiences to help you achieve that success. In many of the courses offered at Gateway Community College students may be required to perform some or all of the following technology-focused activities during and/or outside scheduled class time:

- Access course materials (including assignments, readings, audio or video recordings, or tests) using Blackboard and/or the Internet,
- Perform research using the Internet and online databases,
- Complete class assignments in word-processed or other computer-generated format, or through the use of other technology as designated by the instructor,
- Communicate electronically with the instructor or other students in class.
- See your instructor for specific technology requirements

ONLINE/DISTANCE LEARNING

Gateway Community College offers numerous online, online with campus requirement (OLCR), and hybrid courses using Blackboard, which is an online teaching system available to Connecticut Community College students. Blackboard allows instructors to post materials and communicate with students online. On campus meetings are required for OLCR courses. Hybrid courses meet online and on campus, with some of the contact hours held in the classroom and the remainder of the hours spent online. Many traditional courses are web-enhanced which means the instructor includes course materials online in Blackboard. Faculty members may require students to access Blackboard in any course offered at GCC. You may access Blackboard from any computer connected to the Internet with the correct programs and browsers. Go to https://websupport.ct.edu and click on Browser Check to make sure your computer is compatible with Blackboard.

In many ways, taking an online course is similar to a traditional face-to-face course. You will still have an instructor and fellow students in your virtual classroom. All of the elements of a traditional course: the syllabus, the course materials, textbooks, lectures, discussions, tests, and grades will be part of your online course. You can expect to spend the same amount of time that you would spend in a traditional on-ground course plus the hours that you would have spent in the classroom. For example in a traditional 3-credit course, you would meet in the classroom for 3 hours per week. Professors generally expect that you will study 1 to 2 hours for every hour in the classroom, for a total of 6 to 9 hours per week. The same holds true for an online course, except that the 3 hours of in-class time will now be time that you are working online. This results in a total time commitment of 9-12 hours per week. Online courses are generally not self-paced which means that you must follow the syllabus and complete assignments, assessments, discussion postings, etc. on a regular basis.

Characteristics of successful online students:

- Highly motivated, organized, independent learners
- Possess good time management skills
- Have good reading, writing and communication skills
- Are able to perform basic computer literacy skills (keyboarding, web browsing, word processing, email, attaching files, etc.)
- Have regular and reliable access to a computer with Internet access (DSL or cable recommended).

You will automatically receive an email with helpful introductory information when you register for an online, hybrid or OLCR course. Be sure to check your college e-mail account for important information on a regular basis.

For the latest information, directions for logging in to Blackboard, and many other resources, visit the GCC Blackboard Distance Learning web page at http://www.gatewayct.edu/offices-departments/academic-affairs/distance-learning. Call Kathleen H. Murphy, or Don Walker, Faculty Coordinators, at (203) 285-2570 or e-mail kmurphy@gatewayct.edu or dwalker@gatewayct.edu for more information.

ASSESSMENT OF NON-TRADITIONAL LEARNING (life experience)

Students at Gateway Community College may earn up to 30 credits for knowledge acquired outside the college classroom from such experiences as paid or volunteer work, on-the-job training, vocational training, hobbies, and self-initiated study. A student who has completed a structured training program should first petition the Admissions Office for a direct award of credit. The Admissions Office also provides information about national examinations connected with certain courses and can explain the assessment of extracurricular learning. In general, the College awards credit when a student demonstrates competence in areas that are required in the student's program of study.

Credit for Previously Evaluated Training

The American Council on Education has evaluated training conducted by the military and many national professional associations. Charter Oak State College and the University of the State of New York have evaluated many training programs offered by public and private non-collegiate organizations in Connecticut and New York.

In accordance with Board of Trustees policy, GCC will award credit to students who have successfully completed non-collegiate sponsored instruction and various health training programs including: the Basic Police Training Program conducted by the Municipal Police Training Council; training conducted by the Commission on Fire Prevention and Control and Bureau of the State Fire Marshall; the Pre-service Orientation Program conducted by the Connecticut Department of Corrections; the American Institute of Banking Program of the American Banking Association; and Licensed Practical Nurses are eligible for advanced placement in the Nursing program based on the Connecticut Articulation Model for Nursing Education Mobility.

For more information concerning previously evaluated training, contact the Director of Admissions.

Other Methods of Assessing Prior Learning

College Level Examination Program (CLEP)

The College will award credit for a CLEP exam if the student achieved a sufficient score, as determined by the Admissions Office. Information about the exams and registration procedures is on the College Board web-site, www. collegeboard.com/clep. A transcript of each exam should be sent to the Admissions Office for review.

Assessment by Examination

Qualified faculty may develop and administer individual tests to determine whether a student will be awarded credit without having taken a course. Contact the Director of Career Services to determine whether an examination has been approved for a course, to obtain the Credit by Examination application or for more information about the process. To apply to take an exam in one or more courses, a student must submit a Credit by Examination form for each course to the chairperson of the department or program coordinator in which the course is offered. The student must state on the form how the relevant knowledge was gained. The department chairperson designates a faculty member who, upon approval by the Academic Dean, administers the exam. The Academic Evaluation Fee is $15 per test.

Assessment by Portfolio

Prior learning may also be assessed by review of a portfolio that demonstrates satisfactory competence in one or more courses in the college catalog. The student must enroll in a portfolio preparation workshop and compile a portfolio that includes a list of relevant learning experiences, detailed descriptions of skills corresponding to competencies taught in the college courses, and relevant supporting documentation. The portfolio must demonstrate that the skills learned are equivalent to the competencies listed in the course outline. The student must apply for credit to the department chairperson who designates evaluators to be approved by the dean. The Portfolio Assessment Fee is $50. Contact the Director of Career Services for more information and assistance in beginning a portfolio.

GRADUATION

Graduation is NOT automatic! The final responsibility for meeting program requirements rests with the student. Students are strongly encouraged to see a counselor to verify their eligibility for graduation PRIOR to the start of their last semester.

1. The Counseling and Student Success Center reviews and evaluates student transcripts for graduation. Students enrolled in degree programs should request an initial transcript evaluation after earning thirty (30) credits. Students enrolled in certificate programs should request an initial transcript evaluation after earning nine (9) credits or completing one-half (1/2) of the requirements.

2. Students should complete a preliminary graduation audit online at the Counseling and Student Success Center. An official graduation audit is then conducted by the Records Office. Student MUST submit a graduation application by the posted dates in order to be audited and awarded a degree.

3. A candidate for graduation will be evaluated under the most appropriate catalog, as follows:

   A. For DEGREE STUDENTS **- the catalog under which the candidate first enrolled shall be used to determine graduation requirements, except in the following cases:**

   1. If the candidate was readmitted to the College after an absence of four or more consecutive semesters, the catalog under which the candidate was readmitted shall be used.

   2. When the candidate changes programs during attendance, the catalog in use at the time of the last change in program shall be used.

   3. If there has been a change in the General Education requirements of the program, the candidate must fulfill the new requirements prior to graduation.

   B. For CERTIFICATE STUDENTS **- the catalog in force at the time of enrollment shall be used, unless the Registrar determines that either the catalog of readmission or the catalog of graduation should be used.**

4. To graduate, a student must: (1) have a cumulative quality point average of at least 2.0; (2) have the minimum semester hours of credit; and (3) successfully completed the required and elective courses as designated by the curriculum, and (4) fulfilled all financial obligations to the College.

AWARDING OF MULTIPLE ASSOCIATE DEGREES

1. A student who already holds an academic degree may earn a second degree in a different curriculum at a community college. Such a student shall be treated similarly to a transfer student with respect to the minimum number of credits he or she must take for the second degree. This will require that a student meet all program requirements and earn at least twenty-five (25) percent of the minimum requirements for the new curriculum at the college through which the second degree is to be conferred.

2. A student may earn two degrees simultaneously at a community college by fulfilling all requirements stated above.

3. Requests for additional degrees beyond the second require approval from the academic dean. Students who receive approval must then complete all program requirements, including earning a least twenty-five (25) percent of the minimum requirements from the new curriculum at the college through which the degree is to be conferred.

4. Completion of the requirements of an additional program option does not automatically constitute completion of an additional degree.

TRANSCRIPTS

Students desiring to have official transcripts of grades mailed to other educational institutions must complete a Request on mycommmet or a Request of Transcript form in the Records Office. The form may be downloaded from the www. GatewayCT.edu website. **Official transcripts will be mailed directly to other educational institutions.** One to two weeks are necessary to process such requests. Two weeks before and after a semester begins or ends, it will be a minimum of two weeks to process. No official transcripts may be picked up.

CONNECTICUT COLLEGE OF TECHNOLOGY

The Connecticut College of Technology is an innovative course of study for men and women considering a career in the fields of engineering and technology. It provides an integrated curriculum at Connecticut's public colleges and universities, allowing individuals to begin their studies at Gateway Community College and advance directly to a bachelor degree program at the University of Connecticut (UCONN), Central Connecticut State University (CCSU), Fairfield University, University of New Haven (UNH), University of Hartford, or Charter Oak State College.

Students who are interested in pursuing a four-year degree in engineering or technology are encouraged to contact the College of Technology Program Coordinator, Susan Spencer at (203) 285-2452 or sspencer@gatewayct.edu

CONNECTICUT STATE UNIVERSITY GUARANTEED ADMISSION

Under the policies of their respective boards, Associate in Arts, Associate in Applied Science, or Associate in Science graduates of Gateway Community College are eligible for admission to a Connecticut State University (CSU) and the University of Connecticut. Students who plan to transfer should confer as soon as possible with their counselor or academic advisor regarding any specific requirements in their chosen academic area. Please contact the Counseling Office for more information about continuing into a bachelor's degree program.

Applications for admission to a CSU campus should be completed early in the spring semester for entry the following September. All candidates for transfer to CSU must have a minimum quality point average of 2.0. An effort will be made to place every qualified graduate from GCC; however, if the demands of certain campuses exceed the student spaces available, it may not be possible to admit graduates to their first choice college. In this case, students will be admitted to a campus other than that of their first choice. Student spaces are calculated on the basis of major field of study. It may be possible for a college to accept students into one major field and not into another.

Transfer programs exist for students enrolled in Engineering Science and Technological Studies. Please refer to the Connecticut College of Technology Pathways section for more information.

GATEWAY COMMUNITY COLLEGE ARTICULATION AGREEMENTS

Albertus Magnus College	Southern Connecticut State University
Central Connecticut State University	St. Joseph College
Charter Oak State College	Teikyo Post University
Delaware State College	University of Bridgeport
Eastern Connecticut State University	University of Connecticut
Fairfield University	University of Hartford
Institute of Environmental Management and Technology	University of New Haven
Johnson & Wales University	Wentworth Institute
Quinnipiac University	Western Connecticut State University
Sacred Heart University	Widener University

WORKFORCE DEVELOPMENT & CONTINUING EDUCATION

The Workforce Development & Continuing Education Department is comprised of four separate and distinct areas: Business and Industry Services, Continuing Education & Community Services, Workforce Development Institute, and Step Forward.

BUSINESS AND INDUSTRY SERVICES

Director   (203) 285-2310

Business and Industry Services programs are key to the growth of new and established area businesses. These programs provide a full range of the latest comprehensive, cost-effective, educational training opportunities at the new state-of-the-art Gateway Community College Campus in downtown New Haven. These course offerings are also available to professional groups, labor organizations, state agencies, and other educational institutions. State or Federal funding in support of business development may be available.

Business and Industry Services provides workshops, seminars, and credit/credit-free courses planned around your business schedule, that can be provided at your location.   Customized training and retraining for 20 – 100 employees is available. Some examples of past training programs are listed below.

- Construction Management, Estimating, and Project Management
- Needs assessments, with related research and analysis
- Basic literacy and math skills
- Basic and advanced computer training
- Manufacturing training in CAD, CNC, CAM, Lean, GDT and ROI
- English as a second language
- Proposal and grant writing assistance
- Televised instruction and state-wide teleconferencing
- Facilities for conferences, trade shows, and workshops
- Small business development assistance
- Brokering services for individuals and businesses
- Quality Assurance and Customer Service
- Leadership and supervisory training with nationally recognized programs

Customized On-Site Training

The following are a few examples of customized programs designed specifically for some of Connecticut's leading employers:

- Designed English course for a medical supply company, involving 45 non-English speaking employees on three shifts, regarding a new integrated manufacturing process.
- Provided assessment, basic math, and literacy courses for employees of a large technical manufacturer needing to improve employee skills to meet the demands of a corporate-wide quality improvement project.
- Retrained Production employees for new careers in office automation laid off by plant closings.
- Instructed credit courses in medical terminology and transcription for employees of a large Connecticut hospital.

CONTINUING EDUCATION AND COMMUNITY SERVICES

Coordinator   (203) 285-2082

The office of Continuing Education and Community Services provides affordable learning opportunities for individuals, business employees, members of community organizations, and others. Many of the non-credit courses are designed for personal development and recreational/leisure interests. Connecticut Boating certification, Culinary Arts, 'ed2go' online, Motorcycle Rider (basic and experienced), and Photography (basic and advanced) are just a few of the courses that are also offered.

WORKFORCE DEVELOPMENT INSTITUTE

Coordinator   (203) 285-2302

The Workforce Development Institute offers non-credit certificate training programs which provide new occupational skills to dislocated workers, mature workers, and those who need updated or additional workplace skills. These programs have been approved by local Workforce Investment Boards and meet the criteria for inclusion on the CT Department of Labor Eligible Provider List for the Workforce Investment Act (many of these programs have also been approved by the Veterans Administration and the CT Department of Higher Education for G.I. Bill benefits.) A certificate program may be taken in its entirety, or as independent selected courses. Programs are offered in modules, with rolling start dates to accommodate student needs. Classes are held at various times during the day, evening and weekends to accommodate the needs of all students.

Training is provided in a variety of career tracks including AutoCAD Certificate, Bookkeeping Certificate, Business Professional Computer Skills Certificate, A+ CompTIA (Computer Repair Technicians), Customer Service, Desktop Publishing/Digital Printing, Health & Wellness Career (CPR, EMT, Pharmacy Technician, and the American Academy of Professional Coders Certificate), Medical Billing Associate Certificate, Patient Navigation, Patient Care Technician (CNA, EKG, and Phlebotomy), Pharmacy Technician, Precision Manufacturing (including CNC (Computer Numerical Control) Programming), and Professional Waitstaff Certification. We also provide training opportunities for qualified SNAP E+T (Supplemental Nutrition Assistance Program) participants.

The Workforce Development Institute also designs, develops and coordinates occupational skills training programs in partnership with local community agencies. Training has been provided to cohort groups for entry level positions as Call Center/Customer Service Agents, Automotive Specialists and Pantry/Prep Cooks. It also provided community outreach workshops in customer service to New Haven residents in preparation for opportunities in the retail industry.

Staff members are available to provide career exploration and counseling and to discuss funding opportunities and procedures.

STEP FORWARD

Director   (203) 285-2505

Step Forward I is a 10-month transition program for young adults (18-21) with mild cognitive disabilities. This noncredit program focuses on interpersonal communication skills, career exploration and workplace readiness. In addition to classroom instruction, students are placed in a community or campus-based work experience. Topics covered in the Step Forward I program may include vocational exploration & career planning, job search essentials, personal finances, interpersonal & workplace communications, self-advocacy & disability awareness, and nutrition & fitness.

Step Forward II is a 10-month transition program designed for students who have successfully completed Step Forward I. Students in year II will focus on the career objectives they have identified through their first year by engaging in related college coursework and internships. Students are required to attend non-credit seminars to enhance their study, time management and organizational skills. Each student receives individualized academic and disability-related advising as well as case management. Students are required to do an intensive internship within their field of interest. Topics covered in the Step Forward II program may include time management, effective study skills, understanding college expectations, interpersonal communication, and goal setting.

High Functioning Autism Spectrum Disorder PROGRAM
This esigned for students on the autism spectrum who are academically qualified to enroll in classes at Gateway Community College. The program is designed to create an additional level of support, beyond the federally mandated ADA (disability) services. Students must apply for admission to Gateway Community College and take the placement test to determine appropriate classes. Students requiring academic accommodations must register for disability services.

Services include case management to students in order to monitor student progress by providing academic and disability-related counseling, referrals to appropriate college and community-based resources, and assistance with college procedures including admissions, financial aid, academic advising, registration and disability services.

Non-credit seminars are required to address disability-related issues. Topics will include social skills in the classroom, workplace and with peers, interpersonal communications, self-advocacy & disability awareness, time management & organizational skills, learning strategies, work readiness, and College 101: How to be Successful in College.

LEARNING SUPPORT SERVICES

ACADEMIC ADVISING

The mission of academic advising at Gateway Community College is to assist students in making academic decisions and developing educational plans, taking into account their strengths and their personal goals. Academic advising is an ongoing process of clarification and evaluation aimed at helping students utilize the College's resources to succeed in reaching their goals.

While new students may choose any faculty or professional staff member as an advisor, all continuing students must choose an advisor among members of the department in their program of study. All new students meet with their advisor during the scheduled freshmen orientation/registration sessions. Furthermore, all students are encouraged to take advantage of the advisement period that precedes registration for classes.

BOOKSTORE

Telephone   **(203) 865-5614**
Email   **0809mgr@fhey.follett.com**
Website: **www.gctc.bkgtr.com**

The bookstore carries all course textbooks, other reading materials, art and science supplies, notebooks and school supplies, sundries, snacks, clothing, gifts, and other items of interest. The operating hours of the college bookstore are flexible, thereby providing services to both day and evening students.

CENTER FOR EDUCATIONAL SERVICES

Telephone   **(203) 285-2217**

Learning Disabled Academic Support

Appropriate academic support strategies are arranged for students with learning disabilities through the SDS office.

Tutoring and Mini-workshops

Students enrolled in courses at the college may receive free tutoring. Tutoring is provided for many entry-level courses at the college on small group basis, as available. Mini-workshops may include, but are not limited to, research paper writing skills; time management and coping with test anxiety and introduction to the Macintosh computer.

COLLEGE ADVANCEMENT STUDIES DEPARTMENT

Department Chairperson - (203) 285-2203

The College Advancement Studies (CAS) Department provides developmental-level courses in reading, writing, and mathematics; placement is based upon a student's ACCUPLACER exam scores and appropriate advisement. The College requires students to successfully complete these classes before they enter college level courses of study that have specifically related prerequisites. Credits do not count toward meeting degree requirements.

Mission:
To provide ongoing guidance, advisement, and support that enable developmental students to successfully enhance and master those skills and techniques in reading, writing, and math necessary for success in college level courses.

COLLEGE WRITING CENTER

Coordinator   **(203) 285-2245**

Offering non-evaluative feedback, on any reading or writing assignment across the college-level curriculum, Writing Center tutors devote 45 minutes to working with individual students at any stage of their composition process. Tutors can coach students in narrowing a topic, finding a focus, developing content, organizing ideas, and improving style and correctness; they can also clarify APA and MLA guidelines for properly formatting papers as well as for citing and documenting sources. In collaboration with students, tutors identify, prioritize, and address the issues an assignment's draft presents. Their goal is to enhance a student's re-writing and editing skills and support that student in applying those skills independently before he/she submits the final paper to its ultimate audience, the professor who will grade the essay. The Center opens the second week of each semester; find operating hours on the electronic bulletin boards location around campus. For more information, contact Doree Robinson, Coordinator, at 203.285.2245.

COMPUTER RESOURCES

Computer-equipped classrooms and laboratories for the college curriculum and workshops are located conveniently throughout the campus in both the North and South buildings. All computers are linked by a high-speed network that provides access to printer, internet and other necessary computer services.

The campus has more than 30 computer classrooms. There are general purpose computer classrooms designed for the college's general curriculum, and program-specific computer classrooms for Computer Science, Allied Health, Nursing, Engineering and Graphic Design programs. We utilize more than 100 industry-standard programs for the curriculum, including Microsoft Office, Adobe CS, Autocad, Keyboarding Pro, Visual Studio, SmartCam, and MultiSim. Macintosh computers are also available on a programmatic basis to assist students. The college also has speciality laptop carts that can be brought into lecture classrooms when needed and laptop carts dedicated to the Science labs.

There are four open computer labs on campus located on the second and third floors in both the North and South buildings. At least one open lab is available when the college is open. Hours may vary by lab.

The student service area features more than 50 self-help kiosks that are designed to assist students in retrieving their campus-related information. These kiosks are located throughout the Student Services corridor and enable students to access their information using the myCommNet portal and their NetID.

The Library features more than 35 computer stations in the Learning Commons area where students can perform their library research. There is also a Library instruction classroom with 32 computers where students can learn how to properly utilize all library-related resources. The Library also houses the student laptop loaner program which has 30 laptops that can be loaned out for on campus student use.

The wireless network is available throughout the campus and allows a student to connect and access the internet using their personal wireless device (laptop, tablet, or smartphone). Just use your NetID and password for connection.

EARLY LEARNING CENTER PRESCHOOL

Telephone   (203) 285-2131

Weather Hotline (203) 285-2610

Students with three- to five-year-olds can benefit by enrolling their child in an onsite laboratory preschool. The Early Learning Center, located on the first floor of the College, is a fully licensed NAEYC accredited preschool program for young children open five days a week. The curriculum is based on the belief that each child is an individual and should be allowed to develop at his or her own pace, thus it is centered on the interests, needs, and abilities of its participants. A variety of sensory experiences encourages children to think, analyze problems, and arrive at logical conclusions. To accomplish this, the Early Learning Center provides a stimulating learning environment through three classroom models: Child Development, Modified Montessori, and Creative Curriculum. Breakfast, lunch, and an afternoon snack are included in the program.

The center's hours are Monday through Friday from 7:30 a.m. to 5:30 p.m. The weekly cost to students enrolled for a minimum of three credits at Gateway Community College is $140 per week for full time preschool; the community rate for non-students is $210 per week for full-time preschool.

For more information, contact the Director at (203) 285-2131.

EDUCATIONAL TECHNOLOGIES

Telephone   (203) 285-2268

The Office of Educational Technologies provides support to motivate and enable the College to enrich the learning process through technology. The office serves as a campus resource for information on emerging and evolving educational technologies, coordinates comprehensive media services, and assists in the electronic dissemination of information.

The office coordinates and/or provides support for the following:

- Videoconference Center
- College Website
- Audio-Visual Equipment
- Assistance in Multimedia and Video Production
- One-on-one or group instruction on presentation technology and other computer applications
- Campus-wide Electronic Message System
- Faculty/Staff Training
- Student Computer Laboratories

LIBRARY AND LEARNING COMMONS

Telephone   (203) 285-2057

Gateway Community College maintains a full service library which provides a variety of print and electronic resources that support and supplement the curriculum of the college. In addition to the main collection, the library houses special collections, including the African American History Collection, the Early Childhood Education Model Collection and the Small Business Resource Center. The complete listing of the library's collections is available through the online public access catalog. The library offers collaborative pods (C-pods), laptops for use in the library, graphic calculators and e-readers. Wireless Internet access is also available. The library maintains membership in the "LIBRIS" consortium of Connecticut Community College libraries. Links to all LIBRIS library catalogs are available through the Gateway Library website.

BORROWING PRIVILEGES

Borrowing privileges are granted to full and part-time faculty, full and part-time staff, alumni, and all students currently enrolled. Public borrowing privileges are granted on request, with certain restrictions. Gateway Community College identification (I.D.) is also your library card. The normal circulation period for books is three weeks. Renewals can be arranged in person, by phone, or online. If a borrower does not return items on time he/she will be billed for the cost of replacement plus a processing fee. If a student fails to comply, this may result in a loss of borrowing privileges, withholding of diploma, denial of transcript requests to other institutions, and refusal of re-registration.

ELECTRONIC RESOURCES

The library maintains web pages as part of the college website, offering links to research tools, the online catalog, library information, and Internet resources. Online subscription databases containing full-text articles from journals, newspapers and reference books provide support for a broad spectrum of programs. These and additional resources may be accessed by Gateway students, faculty or staff on-campus via the library's homepage or off campus via MyCommnet using your NetID and password. The college library website address is:
http://www.gatewayct.edu/library.aspx?id=162

SERVICE DESK

The Service Desk on the main floor is a central point for many library services, including:

- Self-check-out and Return of all Materials
- Reference and Research Help
- Computer Help
- Reserve Materials
- Interlibrary Loan Services
- Request for Library Information Instruction

INFORMATION LITERACY

Information literacy is defined as the set of skills needed to find, retrieve, analyze, and use information.   Library staff members provide information literacy instruction in every academic discipline. Specialized introductions to specific resources and/or searching techniques for individuals, small groups, or classes may be arranged. Links to library instruction reservation forms may be found under Information for Faculty on the library website.

Staff will be happy to assist all users with information needs. Come in and browse!

WOMEN IN TRANSITION

Many women have families, jobs, or other responsibilities that make returning to the classroom challenging. The GCC Women in Transition program takes into consideration these situations and offers support and direction to help women succeed. The College offers courses and support services specifically designed for adult women who wish to return to academe after having been away for many years. For more information about this program, contact Dr. Kerin Lee at (203) 285-2151 or e-mail klee@gatewayct.edu.

WOMEN'S CENTER

Telephone   (203) 285-2151

The Women's Center is a place for women to meet, learn more about issues of concern to women, and obtain information about both on-and off-campus services for women. A women's library, workshops, and on-going support groups are available.

STUDENT SUPPORT SERVICES

ATM Machines

ATM machines are located in the Cafeteria.

ATHLETICS AND INTRAMURAL SPORTS

Gateway Community College is a member of the National Junior College Athletic Association, Region XXI (NJCAA), and abides by its eligibility rules and code of ethics. Inter-collegiate team sports include men's and women's basketball. All intercollegiate student athletes must maintain a minimum of a 2.0 grade point average and carry at least twelve (12) credits per semester as well as abide by all policies stated in the Student Athlete Guidelines. Contact the Director of Athletics located in room N217 or by calling (203) 285-2213.

CAFETERIA

While classes are in session, food service is open Monday through Thursday 8:00 A.M. to 2:00 P.M., and from 3:00 P.M. to 7:00 P.M., and on Fridays from 8:00 A.M. to 1:00 P.M. Special hours are posted when classes are not in session. Hot and cold sandwiches, salads, side dishes, soups, and soda are available. Snacks and beverages are also available from vending machines.

COLLEGE CLOSING

If, because of inclement weather or other emergencies, the College announces a delayed opening, class/activity cancellation, or governor's order for closing, the following radio and television stations are notified: WELI, WKCI, WICC, WEBE, WKSS, WPLR, STAR, WTIC, WTNH TV 8, WFSB TV 3, and WVIT TV 30. Please tune in to these stations for up-to-the-minute reports. Students may also call the Weather Telephone Line at (203) 285-2049.

FACULTY OUT HOTLINE

Students can determine if an instructor has cancelled class for any reason by calling the Faculty Out Hotline at (866) 315-2769.

CAREER SERVICES

Telephone   (203) 285-2090

The mission of Career Services is to clarify the career and educational goals of prospective, current, and past students; enable students and others to learn life long skills essential to securing employment and advancing their careers; and develop continuing partnerships with employers. Students can use computers in the counseling and student success center to search for jobs.

> **Career Counseling**

Career counseling is available to prospective or current students, including those in the General Studies curriculum, who have not decided on a college program or career direction. Career counseling helps students to identify career possibilities and move toward a decision.

> **Interest Testing**

A student may take, free of charge, written interest inventories and other career tests. The results usually help to identify specific career areas of interest for the student to explore.

> **Occupational Information**

Career Services maintains information on career fields to help students develop their career plans. Information on occupations, colleges across the country, and sources of financial aid can be obtained from the *Choices* computer system.

Employment Services

An online service, *College Central Network,* is available on the Career Services page of the College website. This service enables students and graduates to seek employment by searching for job listings and registering their resumes. Job postings also are maintained in notebooks in both Career Services offices. Employers can list full-time, part-time, seasonal job openings, and volunteer opportunities with the Career Services office, visit the College individually, and attend Job Fairs.

Job Search Skills

Career Services offers personal assistance and group workshops related to job search skills including resume writing, interviewing, networking, and job-seeking strategies. A series of over 75 *JobShop* handouts is available. Students may use computers in the Career Services offices on both campuses to write resumes and letters.

CENTER FOR EDUCATIONAL SERVICES

Telephone   (203) 285-2217

The Center for Educational Services (CES) provides academic support services for students. The CES provides tutorial assistance and related services to help students become better skilled in selected areas. Computer assisted tutorials are especially useful for review and practice of basic skills, mathematics, English and the sciences. All students are welcome in the center and are encouraged to use any of the services. Call to obtain information on office hours. Please keep in mind that budget restrictions limit the resources available each semester and therefore services are most available early in the semester and can quickly become limited.

Placement Testing

Committed to an open admissions policy, the college welcomes students with different levels of academic preparation. The college believes that proper course selection is one of the keys to academic success. All first-time, degree or certificate students are required to take a Placement Assessment in Reading, Writing, and Mathematics. Placement Assessments are also available for students who have limited English proficiency. (Please refer to the English as a Second Language course descriptions.) Test results are used to advise students into appropriate courses.

Placement Re-Testing Policy

Students wishing to register for courses beyond the Placement Test recommendation (ACCUPLACER) must get faculty approval from the Math and/or English Department. The department may elect to administer a local placement assessment. Faculty may then recommend a placement in a course consistent with the local test results. Students who wish to further challenge the placement outcome may request this from the department chairperson or the Dean of Students in the absence of the department chair. Students are responsible for providing relevant details supporting their case for the waiver of placement. The Dean of Students may authorize re-testing with the ACCUPLACER. Retesting will be scheduled at a time allotted by the placement coordinator, which will not displace first-time test takers.

Learning Disabled Academic Support

Appropriate academic support strategies are arranged for students with learning disabilities through the SDS office.

Tutoring and Mini-workshops

Students enrolled in courses at the college may receive free tutoring. Tutoring is provided for many entry-level courses at the college on small group basis, as available. Mini-workshops may include, but are not limited to, research paper writing skills; time management and coping with test anxiety and introduction to the Macintosh computer.

STUDENT ACTIVITIES AND LEADERSHIP PROGRAMS

Telephone   (203) 285-2208

As the center of student activity, the Office of Student Activities and Leadership Programs is an integral part of the educational mission of Gateway Community College. By offering a variety of programs and services that meet the needs of the Gateway Community, we create an environment for individuals to interact and learn from one another. We provide opportunities for student, faculty, and staff involvement in campus life and community service.

The Office of Student Activities and Leadership Programs, a student-centered organization, values participatory decision making, self-directed activity, and the open exchange of ideas. Through service to the campus community in student governance and leadership, we foster interactive and developmental experiences in leadership and social responsibility. Furthermore, we enhance the academic experience through an extensive array of cultural, educational, recreational, social, and leadership programs. Student activity fees fund the student activities program within the framework of a yearly budget approved by the Student Government Association.

Leadership Development

The Office of Student Activities and Leadership Programs presents a variety of programs designed to enhance the leadership development of our student leaders. Through a formal leadership series, national leadership conference participation, a 3-credit course in Leadership, and a variety of other leadership opportunities, students will have the opportunity to develop and augment their own personal leadership skills.

Student Government Association

Gateway Community College has a Student Government Association (SGA) whose members are elected annually by the student body. The SGA serves to promote good citizenship and harmonious relationships throughout the college and the community. It serves to provide a forum for student representation and to provide orderly direction of college activities. The Student Government Association is responsible for the allocation and distribution of the Student Activity Fund. Any student who meets the necessary academic requirements and pays the student activity fee is eligible for election to the Student Government Association. For more information about the Student Government Association, contact (203) 285-2242 or e-mail gw-sga@gwcc.commnet.edu.

The Campus Activities Board

The Campus Activities Board (CAB) is a sub-committee of the Student Government Association. CAB's purpose is to successfully coordinate, implement, and execute a comprehensive calendar of social, recreational, educational, film, performing arts, service, philanthropic, concert, and cultural events for activity fee paying students at Gateway Community College. For further information call (203) 285-2249 or e-mail the CAB Chair at gw-cab@gwcc.commnet.edu.

Student Organizations

The Student Government Association recognizes numerous student organizations that are formed by special interest groups and advised by a member of the College staff. New student organizations may be formally recognized by the Student Government Association throughout the year. Some of the clubs and organizations that have been formally recognized by the Student Government Association are: Art Club, Armed Forces and Veteran's Club, Black Student Association, Computer and Gaming Club, Early Childhood Association, Financial & Economics Club, Gay Straight Alliance, Gospel Choir, International Student Association, Organization of Latin American Students (OLAS), Muslim Student Association, Poetry and Music Club, Recreation Club, Science Club, Student Nursing Association, Theater Goers Club and Turkish Student Association.

Honor Societies

Students are selected on the basis of outstanding academic scholarship for membership in Phi Theta Kappa Honor Society, the honor society for the two-year colleges.

COUNSELING

Telephone   **(203) 285-2090**

Professional Counselors are available to help students obtain the most from their college experience. GCC offers students comprehensive counseling services: including personal counseling, vocational guidance, and academic counseling. Counselors are available most hours the College is in session, either on a walk-in basis or by appointment.

The counseling staff provides individual academic and career advising, assistance with transfer to four-year institutions, and personal counseling regarding issues that may interfere with goal achievement. Counselors are able to refer students to appropriate community resources. Workshops, support groups and guest speakers may also be offered.

A Student Development and Services Associate is available in room N217.

Start with an Associate's Degree and finish with a Bachelor's Degree

The Counseling office provides information and activities about transferring. To facilitate this process you must meet with a professional counselor who is experienced in options and resources available to you. To speak to a counselor, please contact us in room N213 or by calling (203) 285-2090.

Transfer Process:

- Students planning to transfer should meet with a counselor/program coordinator at least, once per academic semester to make sure that you are fulfilling major requirements and enrolling in courses transferable to your selected college/university.

- Students are encouraged to attend open house, visit the college, check- out their website and housing options before applying for admission. Student can call the admissions office at the receiving college and schedule a campus tour.

- Students are encouraged to meet with admission representatives from the 4-yr colleges/universities during their visit here on campus.

- Students are encouraged to participate in our transfer seminars and college fairs.

- Procedures for applying to a 4-yr university:

- Students are advised to get an unofficial graduation audit by the Counseling & Student Success Center at GCC to make sure they meet program requirements.

- Students are encouraged to apply on-line, once they have selected their 4-yr. college/university.

- Students should fill out a transcript request form in the Registrar's Office in order to have their transcript sent to the receiving college/university.

Once your admissions application and transcript are received by your university of choice, a credit evaluation process will take place in order to determine if you meet the college's general education requirements, major and elective requirements. The receiving college will make a determination at their discretion of what courses are acceptable for transfer.

COMPACT TRANSFER AGREEMENT – The Connecticut State University System (CSUS) and the Connecticut Community College System have formed a transfer compact which offers Dual Admission to students who are planning to enroll at a CSUS institution after completing an associate's degree.

Participating 4-Yr Universities:

Connecticut State University System: Eastern CT State University, Southern CT State University, Western CT State University, & Central CT State University.

Eligibility Process:

- Students who have not yet earned fifteen transferrable college-level credits at the Connecticut Community Colleges.

- Students will start their education at a Community College and upon completion of a 2-year degree transfer to a 4-yr university such as Central, Eastern, Southern or Western Connecticut State University

- Student must plan to earn an associate's degree from one of the 12 Connecticut Community Colleges (within 5 years or less).

- Student must plan to pursue a bachelor's degree at one of the 4-yr Connecticut State University System institutions, beginning within 2-years of completing the associate's degree.

For additional information please visit:

- www.ct.edu/dual
- Central Connecticut St University / www.ccsu.edu
- Eastern Connecticut St University / www.easternct.edu
- Southern Connecticut St University / www.southernct.edu
- Western Connecticut State University / www.wcsu.edu

Applications are available in the Admissions Office and Counseling Office.

University of New Haven / Dual Admissions Agreement

Under the Dual Admissions Agreement, GCC students with an associate degree will be guaranteed admission into UNH's Bachelor's Degree programs including part-time evening, and Accelerated Degree programs with third-year (junior) status, based on the following:

- Student must graduate from GCC with an associate of science, associate of arts or specific associate of applied science degree for which there are program-to program agreements.
- Student must earn a minimum GPA of 2.50 or better; students with GPA's below 2.5 will be reviewed on an individual basis by UNH.
- Student must satisfy all other UNH admissions requirements.
- Student must complete their associate degree within five years of submitting the Dual Admissions Intent form.
- Student should apply for admissions and into their intended major and program of study during the second semester sophomore year at GCC.

Academic awards up to $12,000 will be granted to qualified full-time and part-time students based on GPA's.   The application is available in the Counseling Office, Room N213.

For additional information please visit: www.newhaven.edu

Engineering Science Pathway Program

The Engineering Science Pathway program allows community college students to follow an integrated curriculum at Connecticut's public and private colleges and universities, allowing individuals to begin their studies at Gateway Community College and progress directly into a bachelor's degree program at a 4-year university. The curriculum consists of two distinct pathways: engineering and technology

The student may transfer to the following institutions: University of Connecticut, School of Engineering at the University of Hartford, School of Engineering at the University of New Haven, School of Engineering at Fairfield University, School of Technology at Central Connecticut State University or Charter Oak State College.

For more information please contact Professor Miguel Garcia (203) 285-2358 (mgarcia@gatewayct.edu).

For other transfer agreements see the following websites

University Of Connecticut/GAP/website – www.transfer.uconn.edu

University of Bridgeport: website/transfer – www.bridgeport.edu

For more information about transfer and the dual admissions program please contact the Counseling and Student Success Center at (203) 285-2090.

STUDENT DISABILITY SERVICES

Telephone   (203) 285-2231

Student Disability Specialist: Ronald Chomicz / email: rchomicz@gatewayct.edu
Samantha Kusiak / email: skusiak@gatewayct.edu

Gateway Community College is committed to ensuring that all qualified individuals with disabilities have the opportunity to participate in our educational and employment programs and services on an equal basis. College employment and admission policies prohibit discrimination against qualified persons with disabilities.

The Student Disability Services office (SDS) facilitates the planning and provision of services for students with disabilities. If a student has sensory, learning, physical, medical or a mental health disability, he/she may be eligible for disability services. Students requesting services are required to provide relevant medical, psycho-educational, or mental health documentation prior to receiving services.

Due to the individualized nature of planning for and providing academic adjustments, it is essential that each eligible student meet with the Disability Specialist to discuss his/her specific needs prior to receiving academic adjustments. A student is required to request academic adjustments through the SDS office for each semester that he/she plans on receiving academic adjustments.

If you are a student who requires the use of the elevator due to a documented disability (i.e. mobility), the SDS Office encourages you to identify yourself to our office even if you do not use any other academic adjustments. By registering with the SDS office we can better assist you in the event of an elevator malfunction.

VETERANS' BENEFITS

Telephone   (203) 285-2144

Veterans Administration Benefits

Veterans, members of the Reserves and dependents of veterans who believe that they are eligible for educational benefits from the Veterans Administration may obtain an application for benefits from the Director of Career Services, who is the Veterans Certifying Official for the college. Students who are receiving VA benefits *must* notify the Certifying Official of their course schedule *each semester* and of any changes in their course load. Courses must meet requirements of the degree or certificate in which the student is enrolled.

Some non-credit programs are certified for VA benefits; veterans may ask the Certifying Official whether they can receive benefits while attending a specific non-credit program.

To be eligible to receive educational benefits from the Veterans Administration, a student must maintain satisfactory academic progress, as defined by college policies. The Veterans Certifying Official at the college will not certify a student for VA educational benefits who has been suspended because of a failure to maintain satisfactory progress. Eligibility to receive benefits will be reinstated upon readmission.

Connecticut Tuition Waiver

Veterans who meet the requirements listed under "Tuition and Fee Waivers" (page 29), including service on active duty for at least 90 days during the periods defined as war-time by state statute, are eligible for a waiver of tuition for general fund courses. The student must present a copy of DD Form 214 to the Payments Office to obtain the waiver. The waiver applies only to credit courses offered in the fall and spring semesters, and eligible veterans must pay all fees.

GENERAL EDUCATION REQUIREMENTS

Effective Spring 2007, new general education requirements are outlined below according to Section 10a-34-15, (Curriculum and Instruction).

The general education requirement is designed to assure that each student develops the ability and knowledge to become an active and capable participant in a changing world, learns to appreciate the cultural and social differences of various groups of citizens, and develops independent judgment.

The desired student learning outcomes of the general education requirement are listed below:

1. Competence in written and oral communication in English
2. Ability for scientific and quantitative reasoning, for critical analysis and logical thinking
3. Knowledge and understanding of scientific, historical, and social phenomena
4. Knowledge and appreciation of aesthetics and ethics
5. Information literacy
6. Technological literacy
7. Understanding of the values of responsible citizenship
8. Appreciation of other cultures

Gateway Community College requires that at least one-third of all associate degree programs include English Composition (ENG* 101), Fundamentals of Human Communication (COM* 171), and a balanced distribution of coursework in the arts, humanities, natural and physical sciences, mathematics, and social sciences. Furthermore, each program has a computer literacy requirement.

COMMON CORE OF GENERAL EDUCATION

The General Education Core requirements are listed below:
English Composition (ENG* 101)
Fundamentals of Human Communication (COM* 171)
At least one course in Fine Arts
At least one course in Humanities
At least one course in Mathematics
At least one course in Natural Sciences
At least one course in Social Sciences
At least one course that demonstrates competency in the College's Computer Literacy requirement, understanding the values of responsible citizenship and appreciation of other cultures

GENERAL EDUCATION OUTCOMES

English Composition (ENG* 101)

After successful completion of English Composition, students should be able to write clear, coherent, focused, well-developed, error-free essays and will have produced a documented research paper.

Fundamentals of Human Communications (COM* 171)

After successful completion of Communications, students should be able to express themselves orally in interpersonal and small- and large-group situations and demonstrate an awareness of communication barriers and breakdowns.

Fine Arts

Art

After successful completion of Art courses, students should have developed an aesthetic knowledge and appreciation of the arts through classroom activities, practical application, and related cultural experiences.

Music

After successful completion of Music courses, students should have developed knowledge and appreciation of music through classroom activities, practical application, and related cultural experiences.

Humanities

English Literature

After successful completion of Literature courses, students should be able to demonstrate an awareness of relationships between literature and society and understand social and multicultural perspectives in literature. Students should be able to form and express logical opinions about literature in both discussion and writing.

Humanities

After successful completion of a Humanities elective, students should have critically examined the development of values; the roles of creativity, spontaneity, and discipline in human life; and the essential spirit of communication.

Mathematics

After successful completion of Mathematics courses, students should be able to solve problems and make reasoned decisions in their personal and professional lives.

Natural Sciences

After successful completion of Science courses, students should be able to appreciate and apply the scientific method to describe, create, and understand natural phenomena.

Social Sciences

Behavioral Sciences

After successful completion of a Behavioral Science elective, students should be able to demonstrate knowledge of the major theories in the behavioral sciences; understand and apply the scientific methodology used for behavioral science research; demonstrate an understanding of basic psychological processes, such as memory and learning; analyze the effects of social forces on the perceptions, roles and behaviors of individuals and groups; evaluate the causes and consequences of perceived inequity among groups of people; demonstrate an understanding of the range of psychological and social functioning among different people across the life span and across situations; demonstrate an understanding and appreciation for the development and range of social structures such as marriage and the family, the arts, political organization, and religion across cultures; develop a conceptual framework for the origin of man and the development of culture.

Social Sciences

After successful completion of a Social Science elective, students should be able to conduct an inquiry in the social sciences using a variety of resources to gather and evaluate information; evaluate the interdependence of local, national and global communities; appreciate the relevance of the social sciences to social, political, and economic institutions and behaviors; analyze the reciprocal influence of Western and non-Western institutions and ideas in the developing global community; demonstrate competence in accessing, ordering, interpreting and evaluating new information; demonstrate knowledge of both the strengths and weaknesses of the types of research employed in the social sciences, and, in addition, develop an appropriate conceptual framework for analyzing current world issues.

Technological Literacy

After successful completion of a course that satisfies the computer literacy requirement, students should be able to apply basic computer software to coursework in their programs, their chosen careers, and academic fields.

Information Literacy

Upon completion of a course that satisfies information literacy, students should be able to utilize information technology to facilitate research and learning.

Understand the Values of Responsible Citizenship

The ability to recognize and analyze ethical issues, make and defend ethical decisions, exhibit social responsibility by engaging in community, social, civic, or cultural service.

Appreciation of Other Cultures

Students will recognize how environment and culture shape ones opinions and judgments and describe and evaluate individual, group and institutional influences on human experience.

ELECTIVES

These are courses selected by the student according to program requirements. When selecting electives, especially for transferability to another institution, students should consult their academic advisor.

Business

Accounting, Business, Computer Science, Economics, Business Office Technology, and Hospitality Management

Computer Literacy

Keyboarding for Information Processing I (BOT* 111), Keyboarding for Information Processing II (BOT* 112). Accounting Computer Application I (ACC* 125), Business Software Applications (BBG* 115), Introduction to Software Applications (CSA* 105); Introduction to Computers (CSC* 101); Computer Logic and Programming; C, C++; Windows/DOS/Microcomputers (CSC* 120); Word Processing Applications (BOT* 137); Computers for ECE (ECE* 110); Computerized Communication (BOT* 220); Database Applications (CSA* 140); Spreadsheet Applications (CSA* 135); and Desktop Publishing (BOT* 217). For technical programs: Computer Applications for Technology (CET 116)

Engineering and Applied Technologies

Biomedical Engineering Technology, Electrical Engineering Technology, Computer Engineering Technology, Manufacturing Engineering Technology, Mechanical Engineering Technology

Fine Arts

Art and Music

Humanities

Art, Communications, English (college-level), Foreign Languages, Graphics, Literature, Music, Philosophy, Reading (college-level), or Sign Language

Mathematics

Mathematics (college-level)

Natural Sciences

Biology, Chemistry, Earth Science, Ecology, Physical Science, Physics, or Environmental Science

Social Sciences

Anthropology, Criminal Justice, Drug and Alcohol Recovery Counselor (DARC), Education, Geography, History, Political Science, Human Development (college-level), Human Services, Psychology, or Sociology

Technical

Alternative Fuel Vehicle, Automotive Technology, Clean Water Management, Computer Aided Drafting, Environmental Science and Toxicology, Fire Technology and Administration, Railroad Engineering Technology, Solar Technology, Water Management, Wastewater Management and all courses from the 'Engineering and Applied Technologies courses above

Liberal Arts & Sciences

Any college-level course in the following disciplines: Anthropology (ANT), Art (ART) (non-studio), Biology (BIO), Chemistry (CHE), Earth Science (EAS), Economics (ECN), English (ENG), Environmental Science (EVS), Foreign Language (FRE, ITA, SPA), Geography (GEO), History (HIS), Mathematics (MAT), Music (MUS) (non-performance), Philosophy (PHL), Physics (PHY), Political Science (POL), Psychology (PSY), Sociology (SOC).

ACADEMIC DEFINITIONS

The following definitions are helpful to know when selecting your program and courses:

Credit Hours (cr.) — College work is measured in units called credit hours. A credit-hour value is assigned to each course and is normally equal to the number of hours the course meets each week. Credit hours may also be referred to as semester hours (S.H.).

Lecture Hours (lec.) — The number of clock hours in the fall or spring semester the student spends each week in the classroom. This time frame is different for the shorter summer sessions.

Laboratory Hours (lab.) — The number of clock hours in the fall or spring semester the student spends each week in the laboratory or other learning environment. This time frame is different for the shorter summer sessions.

Prerequisite — A course that must be successfully completed or a requirement such as related life experiences that must be met before enrolling in another course.

Corequisite — A course that must be taken during the same or earlier semester as the course in which one is enrolling.

Common Core — A term which refers to courses as listed under the College's Common Core of General Education which the faculty of the College considers essential to its degree programs.

Electives — Courses which may be chosen.

General Electives — All credit courses listed in the catalog. Students should consider transferability of courses when choosing general electives.

Directed/Restricted Electives — Credit courses that satisfy specific program requirements. These courses are listed with each program area.

Non-Credit — A course of study that does not apply towards the college degree; typically designed as short courses, workshops and customized programs. Non-credit programs focus on knowledge and skills that can be applied directly to the job, or personal and professional growth.

Continuing Education Unit (CEU) Certificates — Awarded for successful achievement of a non-credit program's learning objectives; typically CEU's are awarded on a 1:10 ratio (i.e., one CEU for every ten hours of qualified instruction).

Syllabus — An outline or summary of the main points in a course of study.

Matriculate — To be admitted to a program of study.

DEGREE & CERTIFICATE PROGRAMS

AA - Associate in Arts
AAS - Associate in Applied Science

AS - Associate in Science
C - Certificate

BUSINESS OFFICE TECHNOLOGY		
BOT: Business Office Technology	AS	104
BOT: Administrative Assistant Option	AS	105
BOT: Administrative Assistant	C	106
BOT: Office Applications Skills Update	C	106
BOT: Customer Service Technology	C	107
BOT: Legal Administrative Assistant Option	AS	108
BOT: Medical Administrative Assistant Option	AS	109
BOT: Medical Administrative Assistant	C	110
BOT: Information Processing Technician	C	110
CONNECTICUT COLLEGE OF TECHNOLOGY		
Engineering Science (UCONN, UNH, University of Hartford, Fairfield Univ.)	AS	112
Technological Studies (CCSU, Charter Oak State College)	AS	113
COMPUTER SCIENCE		
Computer Science	AS	114
Computer Science	C	115
Computer Science: Networking Option	AS	116
Computer Science: Networking	C	117
DRUG AND ALCOHOL RECOVERY		
Drug and Alcohol Recovery Counselor	AS	118
Drug and Alcohol Recovery Counselor	C	120
EARLY CHILDHOOD EDUCATION		
Early Childhood Education Career	AS	121
Early Childhood Education Continued Study	AS	124
Administration and Leadership	C	125
Child Development Associate Credential	C	126
Teacher Assistant	C	126
EARLY CHILDHOOD SPECIAL EDUCATION		
Early Childhood Special Education	AS	127
Early Childhood Special Education	C	130
Family Support and Respite Care	C	130
Infant and Toddler Development	C	131
ENGINEERING TECHNOLOGY		
Biomedical Engineering Technology	AS	132
Computer Engineering Technology	AS	134
Computer Servicing	C	135
Electrical Engineering Technology	AS	136
Electronics Technician	C	138
General Engineering Technology	AAS	139
Manufacturing Engineering Technology	AS	140
Quality Control	C	141
Mechanical Engineering Technology	AS	142
Computer Assisted Drafting (CAD)	C	143
Railroad Engineering Technology	AS	144
Railroad Engineering Technology - Signaling and Communications Option	AS	145

ENTREPRENEURIAL STUDIES		
Entrepreneurial Studies	AS	146
Entrepreneurial Studies	C	147
GENERAL STUDIES		
General Studies	AS	148
HOSPITALITY MANAGEMENT		
Food Service Management	AS	149
Culinary Arts	C	151
Professional Baker	C	152
Hotel-Motel Management	AS	152
Meetings, Conventions, and Special Events Management	C	154
HUMAN SERVICES		
Human Services Career	AS	155
Human Services Continued Study	AS	157
Human Services	C	158
Human Services: Gerontology Option	AS	158
Gerontology	C	159
Therapeutic Recreation	C	159
Youth Worker	C	160
LIBERAL ARTS & SCIENCES		
Liberal Arts & Sciences	AA	161-163
NURSING		
Nursing	AS	164-172
RETAIL MANAGEMENT		
Retail Management/Fashion Merchandising	AS	173
Retail Management/Fashion Merchandising	C	174
SCIENCE		
Environmental Science and Toxicology	AS	175
Environmental Science and Toxicology	C	176
Natural Sciences And Mathematics	AS	177
TECHNOLOGY		
Clean Water Management	C	179
Solar Technology	C	181
Water Management	C	182
Fire Technology and Administration	AS	183

Courses with an asterisk (*) have been converted to the Community College System Common Course Numbers. Previous course numbers are listed after the title in the Course Description section.

ALLIED HEALTH

HEALTH CAREER PATHWAYS

Certificate

The Health Career Pathways Certificate program is designed to assist students in achieving success in health care programs. Students will be provided with the foundation necessary for health care professions. Credits from this program may be applied toward health care program requirements within Connecticut's Community College system. However, completion of this program does not guarantee an automatic acceptance into any health care program. Students are responsible for verifying specific requirements for their program of interest.

For more information on the Health Career Pathways program, please contact Mary Beth Banks, Enrollment Services Assistant at 203.285.2388 or e-mail mbanks@gatewayct.edu.

Upon successful completion of all program requirements, the student should be able to:
- Identify a variety of career opportunities and roles available in health care professions
- Meet most requirements for entrance into health care programs
- Demonstrate an understanding of the impact of psychological principles and how they relate to the health care field
- Effectively utilize and interpret medical terminology
- Demonstrate critical thinking, logical reasoning and problem solving skills
- Demonstrate competence in written and oral communication
- Use and apply scientific methods

Course #	Title	Credits
HLT* 103	Investigations in Health Careers	3
ENG* 101	Composition	3
MAT* 137	Intermediate Algebra	3
BIO* 105 or BIO* 115 or BIO* 121	Introduction to Biology Human Biology General Biology I	4
BIO* 211	Anatomy & Physiology I	4
BIO* 212	Anatomy & Physiology II	4
CHE* 111	Concepts in Chemistry	4
PSY* 111	General Psychology I	3
	Total Credit Hours	**28**

PRE-DENTAL HYGIENE TRANSFER COMPACT

Associate of Science – General Studies

The Gateway Community College Pre-Dental Hygiene Transfer Compact is designed to provide academic opportunities for students who are seeking an Associate of Science or a Bachelor of Science Degree in Dental Hygiene. Students may complete pre-requisite and general education courses at Gateway Community College that will transfer to the University of New Haven's Dental Hygiene Program. Gateway students who complete the Associate of Science Degree in General Studies and have followed the Pre-Dental Hygiene track are eligible to apply for admission to the University of New Haven's Dental Hygiene Program.

After completing the Associate of Science or the Bachelor of Science Degree in Dental Hygiene from the University of New Haven, graduates will be eligible to take both the Dental Hygiene National Board Examination and the Northeast Regional Board Examination in order to apply for the Registered Dental Hygienist (RDH) License. The Program in Dental Hygiene at the University of New Haven is accredited by the Commission on Dental Accreditation of the American Dental Association.

For more information on the Pre-Dental Hygiene Transfer Compact, please contact Mary Beth Banks, Enrollment Services Assistant at 203.285.2388 or e-mail mbanks@gatewayct.edu.

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
BIO* 121	General Biology	4
CSC* 101	Introduction to Computers	3
ENG* 101	Composition	3
MAT* 137 or MAT* 117	Intermediate Algebra Introduction to Finite Mathematics	3
Elective	Social Science	3
	Total Semester Credit Hours	**16**

Freshman Year - Spring Semester

Course #	Title	Credits
CHE* 111	Concepts of Chemistry	4
COM* 171	Fundamentals of Human Communication	3
ENG* 102	Literature & Composition	3
SOC* 101	Principles of Sociology	3
Elective	Fine Arts *	3
	Total Semester Credit Hours	**16**

* Restricted Fine Arts Electives: (Choose one): ART* 101, 102, 103, 107 or MUS* 101

Sophomore Year - Fall Semester

Course #	Title	Credits
HLT* 107	Methods of Learning in a Clinical Curriculum	3
BIO* 211	Anatomy & Physiology I	4
DNT* 105	Introduction to Dental Hygiene I	1
HIS* 101 or HIS* 102	Western Civilization I / Western Civilization II	3
Elective	Social Science	3
	Total Semester Credit Hours	**14**

Sophomore Year - Spring Semester

Course #	Title	Credits
BIO* 212	Anatomy & Physiology II	4
DNT* 106	Introduction to Dental Hygiene II	1
NTR* 102	Nutrition I: Principles of Nutrition	3
POL* 102	Introduction to Comparative Politics	3
PSY* 111	General Psychology I	3
	Total Semester Credit Hours	**14**
	Total Credit Hours	**60**

EXERCISE SCIENCE AND WELLNESS

Associate in Science

PROGRAM MISSION:

To prepare students with the knowledge, attitudes and skills necessary for competent practice in exercise and for employment in the health and fitness industry while providing a basis for professional advancement.

PROGRAM OBJECTIVES:

Upon completion of all program requirements, graduates should be able to:

- Conduct individualized client consultations and fitness assessments to design appropriate exercise programs for various populations (aged, youth, overweight/obese, chronic disease, etc.).
- Demonstrate working knowledge of nutrition and plan diets for normal and therapeutic populations.
- Demonstrate an understanding of human anatomy and exercise physiology in relation to exercise and exercise programming.
- Understand and adhere to the American College of Sports Medicine Code of Ethics.
- Conduct appropriate business and administrative practices including marketing and promotion in order to successfully operate within the fitness field.
- Be eligible to take the national certification board exams for their chosen area of interest.

Admissions Requirements

Students must present current First Aid and CPR certification that has a practical skill examination component (such as the American Heart Association or the American Red Cross) and physical examination before beginning EXS* 210 and EXS* 212. Students should consult with the coordinator of the Exercise Science and Wellness program for advice about course selection and information about additional costs, including liability insurance for EXS* 210 and EXS* 212. For more information, contact the Program Coordinator, Todd Degree at (203) 285-2446 or e-mail at (tdegree@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
BIO* 105	Introduction to Biology	4
ENG* 101	Composition	3
EXS* 101	Introduction to Exercise Science & Wellness	3
EXS* 102	Seminar in Exercise Science & Wellness	3
MAT* 167	Principles of Statistics	3
	Total Semester Credit Hours	**16**

Freshman Year - Spring Semester

Course #	Title	Credits
BIO* 211	Anatomy & Physiology I	4
COM* 171	Fundamentals of Human Communications	3
EXS* 115	Fitness Management	3
EXS* 210	Exercise Science & Wellness Internship I	1
NTR* 102	Nutrition I	3
PSY* 111	General Psychology I	3
	Total Semester Credit Hours	**17**

Sophomore Year - Fall Semester

Course #	Title	Credits
BIO* 212	Anatomy & Physiology II	4
ENG* 200	Advanced Composition	3
EXS* 225	Essentials of Strength and Conditioning	3
EXS* 227	Exercise Programming and Design	3
Elective	Fine Arts	3
	Total Semester Credit Hours	**16**

Sophomore Year - Spring Semester

Course #	Title	Credits
CSA* 105	Introduction to Software Applications	3
EXS* 212	Exercise Science & Wellness Internship II	1
EXS* 235	Exercise Physiology	3
NTR* 103	Seminar in Dietetics	3
NTR* 104	Nutrition II	3
PHY* 101	Physics for Today	3
	Total Semester Credit Hours	**16**
	Total Credit Hours	**65**

FITNESS SPECIALIST

Certificate

FITNESS SPECIALIST STUDIES MISSION STATEMENT

The mission of the Fitness Specialist Studies certificate program is to prepare graduates with entry level skills, and flexibility to compete successfully in a dynamic employment market wherever nutrition and fitness are emphasized.

The Fitness Specialist certificate prepares students for immediate employment in the fitness industry in such settings as health clubs, gyms, YMCAs, and corporate wellness programs. Graduates may also consider such self-employment careers as personal trainer or sales and marketing of health and nutrition programs and fitness equipment. Upon completion of the certificate program, students may take national exams for certification from a variety of fitness associations.

Admission Requirements

Students must present current First Aid and CPR certification that has a practical skill examination component (such as the American Heart Association or the American Red Cross) and physical examination before beginning EXS* 212. Students should consult with the coordinator of the Exercise Science and Wellness program for advice about course selection and information about additional costs, including liability insurance for EXS* 212. For more information, contact the Program Coordinator, Todd Degree at (203) 285-2446 or e-mail at (tdegree@gatewayct. edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
BIO* 211	Anatomy and Physiology I	4
NTR* 102	Nutrition I	3
Elective +	Restricted	3
	Total Semester Credit Hours	**10**

Freshman Year - Spring Semester

Course #	Title	Credits
BIO* 212	Anatomy and Physiology II	4
NTR* 103	Seminar in Dietetics I	3
NTR* 104	Nutrition II	3
	Total Semester Credit Hours	**10**

Sophomore Year - Fall Semester

Course #	Title	Credits
EXS* 225	Essentials of Strength & Conditioning	3
EXS* 235	Exercise Physiology	3
	Total Semester Credit Hours	**6**

Sophomore Year - Spring Semester

Course #	Title	Credits
EXS* 115	Fitness Management	3
EXS* 212	Exercise Science & Wellness Internship II	1
	Total Semester Credit Hours	**4**
	Total Credit Hours	**30**

+ Restricted electives:

Course #	Title
ACC* 113	Principles of Financial Accounting
BBG* 210	Fundamentals of Business Communication
BIO* 113	Physiology of Aging
BES* 218	Starting and Managing a Small Business
BMK* 220	Sales
BMK* 201	Principles of Marketing
CHE* 111	Concepts of Chemistry
COM* 171	Fundamentals of Human Communications
CSC* 101	Introduction to Computers
CSC 110	Using Computers/Software Applications
EXS* 101	Introduction to Exercise Science & Wellness
EXS* 102	Seminar in Exercise Science & Wellness
EXS* 227	Exercise Programming and Design
HSE* 151	Introduction to Therapeutic Recreation
PSY* 111	General Psychology I
PSY* 109	Psychology of Aging

NUTRITION

Program Mission:

To prepare graduates with entry-level skills, competence, and flexibility to compete successfully in a dynamic employment market wherever food, nutrition, and wellness are emphasized.

Program Goals:

1. The program will prepare graduates to be competent entry-level dietetic technicians.

2. To provide a Dietetic Technology program that maintains a high level of student retention.

3. The program will offer quality instruction and comprehensive services to a diverse student population.

DIETETIC TECHNOLOGY

Associate in Science

There is a growing demand for qualified personnel in the field of dietetics throughout the United States. The registered dietetic technician works under the supervision of a registered dietitian in health care, community nutrition, and food service management programs. Registered dietetic technicians function as active members of the nutrition team by assessing, planning, implementing, and evaluating the nutritional care of individuals or by supervising food service operations. The Dietetic Technology program is currently granted accreditation by the Commission on Accreditation for Dietetics Education of the Academy of Nutrition and Dietetics (A.N.D.), 120 South Riverside Plaza, Suite 2000, Chicago, Illinois 60606-6995; (312) 899-0040 ext. 5400 or (800) 877-1600; www.eatright.org. Graduates of the program are encouraged to take the Commission on Dietetic Registration's registration examination to become registered dietetic technicians (DTR). Graduates are also eligible for membership in the A.N.D. and the Dietary Managers Association (DMA). The program reflects the coordination of theory and practice that is required for students to acquire the knowledge, attitudes, and skills necessary for competent practice in dietetics. A minimum of 450 hours of supervised field experience provides opportunities to practice these skills. Students who wish to transfer to an A.N.D.-approved four-year program in dietetics should consult the program director regarding the transferability of courses.

DIETETIC TECHNOLOGY PROGRAM OUTCOMES

Upon successful completion of all program requirements:

- Graduates will achieve a pass rate of at least 70% on the DTR exam over a five year period.
- Within twelve months of graduating at least 60% of the graduates will have attained employment related to the field of dietetics and/or enrolled in an accredited continuing education program.
- Students will achieve a satisfactory rating for the entry-level competencies of a dietetic technician.
- Employers will rate program graduates in their employ as satisfactory knowledge base on surveys.
- An attrition rate of 35% or less will be maintained for students completing NTR* 202 – Nutrition III.
- Eighty percent of students will evaluate each nutrition course with an overall minimum rating of good or better.
- Program faculty will maintain their Registered Dietitian status and professional portfolio/continuing education credits while employed by Gateway Community College.
- Students will attend a minimum of 10 hours at professional meetings offering continuing education units.

Admissions Procedure

All students must first apply to and be accepted by the College. The Dietetic Technology Program application form, available from the Admissions Office or dietetics program director, must then be completed. Unless waived, all applicants must take placement tests in reading, English, and mathematics. Students in this program are responsible for expenses for uniforms, physical examinations, CPR, travel to field sites, parking, and meals. Specific information about these costs and coverage for accident and liability insurance is available from the Program Coordinator, Marcia Doran. A complete physical examination is required before field experience begins.

Graduation Requirements

In addition to the College's general requirements, this program requires a minimum grade of "C" in each and all science and program-specific courses. The student must also successfully complete all of the program competencies and must pass the National Restaurant Association Sanitation exam. The program coordinator reserves the right to recommend to the College the withdrawal of a student from the Dietetic Technology program whose health, clinical performance, attendance, or conduct does not meet the program standards. For more information, contact the Program Coordinator, Marcia Doran, at (203) 285-2390 or e-mail mdoran@gatewayct.edu.

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
BIO* 115	Human Biology	4
CSC* 101 or CSA* 105	Introduction to Computers or Introduction to Software Applications	3
ENG* 101	Composition	3
MAT* 115	Mathematics for Science and Technology	3
NTR* 101	Introduction to Dietetics	3
NTR* 102	Nutrition I	3
	Total Semester Credit Hours	**19**

Freshman Year - Spring Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
HSP* 108	Safety, Sanitation and Maintenance	3
NTR* 103	Seminar in Dietetics I	3
NTR* 104	Nutrition II	3
NTR* 105	Food Management Systems	3
Elective	Humanities	3
	Total Semester Credit Hours	**18**

Summer Session

Course #	Title	Credits
NTR* 210	Nutrition Field Experience I	1
	Total Semester Credit Hours	**1**

Sophomore Year - Fall Semester

Course #	Title	Credits
CHE* 101 or CHE* 111	Introduction to Chemistry or Concepts of Chemistry	3-4
NTR* 120	Foods	3
NTR* 201	Community Nutrition Education	3
NTR* 202	Nutrition III	3
NTR* 203	Seminar in Dietetics II	3
NTR* 212	Nutrition Field Experience II	1
	Total Semester Credit Hours	**16-17**

Spring Semester

Course #	Title	Credits
NTR* 204	Nutrition IV	3
NTR* 214	Nutrition Field Experience III	1
Elective	Fine Arts	3
Elective	Social Science	3
	Total Semester Credit Hours	**10**
	Total Credit Hours	**64-65**

RADIOLOGIC TECHNOLOGY PROGRAMS

The field of Radiologic Technology includes some of the most rapidly advancing careers in modern medicine. Recent changes in technology, the ever-increasing use of highly sophisticated equipment, and the expansion of radiology departments throughout the nation have created a large demand for individuals educated in this field. Gateway Community College is helping to meet this demand by offering programs in four areas of radiologic technology. The Radiography and Radiation Therapy Programs are accredited by the Board of Governors for Higher Education and the Joint Review Committee (www.JRCERT.org) on Education in Radiologic Technology, 20 N. Wacker Drive, Suite 2850, Chicago, IL 60606-3182, (312) 704-5300, (Diagnostic Medical Sonography pending). The Nuclear Medicine Technology Program is accredited by the Board of Governors for Higher Education and the Joint Review Committee on Educational Programs in Nuclear Medicine Technology, 2000 W. Danforth Road, Suite 130, #203, Edmond, OK 73003; (405) 285-0546.

Radiologic Technology refers to four disciplines:

Diagnostic Medical Sonography: Diagnostic Medical Sonographers use highly sophisticated equipment to produce the images necessary to assist the physician in the diagnosis and treatment of diseases.

Nuclear Medicine: Nuclear Medicine technologists administer radiopharmaceuticals, acquire and process images using a gamma or PET camera and computer system to assist physicians in the diagnosis and treatment of disease.

Radiation Therapy: Radiation Therapists use highly sophisticated equipment to administer therapeutic doses of ionizing radiation, as prescribed by the physician, for the treatment of disease, primarily cancer.

Radiography: Radiographers are primarily responsible for administering ionizing radiation to the patient and producing images necessary to assist the physician in the diagnosis and treatment of disease or injury.

The courses in the Radiologic Technology curricula are designed to build sequentially upon the knowledge learned in previous courses. Therefore, all required courses must be taken in sequence, and all prerequisites must be met prior to registration. Each program consists of a didactic component taught at the College and clinical laboratory experiences at one or more of the affiliated hospitals. To be eligible for graduation, students must successfully complete both components.

Admission Requirements

To be considered for admission to the programs, candidates must complete the application process which is located on the College website (GatewayCT.edu). Students should apply as early as possible, due to the limited number of seats available. In addition to the College's general admission policies, applicants must meet the following criteria:

- Successful completion of the ACCUPLACER examination in mathematics, reading, and writing skills
- Submission of the radiology application
- Attendance at a program-specific information session
- Completion of pre-requisite courses

Accepted candidates will be notified by the Admissions Office; all candidate selections are final. The Program Coordinator reserves the right to recommend to the College the withdrawal of a Radiologic Technology program student whose health, clinical performance, attendance, or conduct does not meet program standards. An Allied Health Student Guide is available to all applicants upon request.

In order for a student to continue in any Radiology program, he/she is required to participate in a mandatory Patient Care Orientation (PCO), which is held during the summer before the first semester. Each student is required to successfully complete PCO with an overall course average of 75 or higher in order to continue in their designated Program.

Students in any Radiology program are responsible for expenses for uniforms, physical examinations, CPR certification, travel to clinical sites, parking, meals, clinical education supplies (textbooks, etc.), and any accidental and liability insurance costs.

Graduation Requirements

In addition to the College's general requirements, the programs require a minimum grade of "C" in each and all mathematics, science, pre-requisite, and program-specific courses. Students must also successfully complete all of the program's published clinical competencies. Graduates are eligible to apply for admission to the certification examination in Radiologic Technology administered by the American Registry of Radiologic Technology, Nuclear Medicine Technology Certification Board and/or the American Registry for Diagnostic Medical Sonography.

For more information on the Radiologic Technology programs, contact the Allied Health Administrative Coordinator, Alice Pandolfi at (203) 285-2391 or e-mail at (apandolfi@gatewayct.edu).

Note: Non-traditional students who did not complete high school but earned a GED may be evaluated based on GED math and science scores and/or prior college credits.

ARRTS PROGRAM

This program results in an Associate of Science Degree for hospital-based graduates in the areas of Diagnostic Medical Sonography, Nuclear Medicine Technology, Radiation Therapy, and Radiography. Gateway Community College offers an innovative program for hospital-trained Radiologic Technologist professionals who wish to acquire their Associate of Science Degree. Gateway will grant credit to those applicants who are graduates of a two-year accredited hospital-based (certificate) program and hold certification by the American Registry of Radiologic Technology. Certification areas include: Diagnostic Medical Sonography, Nuclear Medicine, Radiation Therapy, and Radiography, ARDMS, ARRT (N), (T), (R), (D), (S), NMTCB.

Upon verification of transcripts and current documentation of ARRT certification, applicants will be awarded up to 34 credits for courses in Diagnostic Medical Sonography, Nuclear Medicine, Radiation Therapy, or Radiography. Individuals accepted into this program need only complete program pre-requisite courses and any general education courses required for the associate degree. Degree credit will also be granted for credit courses completed at other accredited collegiate institutions.

DIAGNOSTIC MEDICAL SONOGRAPHY

Associate in Science

A description of admissions requirements are available from the Allied Health Division and online at GatewayCT.edu. The associate degree program in Diagnostic Medical Sonography (DMS) provides individuals with the academic and technical skills necessary to perform abdominal, obstetrical, small parts, and gynecological, and vascular sonography procedures. Upon completion of the two-year program plus one year of clinical education, students will be eligible to apply to take the national registry examination from the American Registry of Diagnostic Medical Sonographers (ARDMS). *(Prerequisites for Admission: BIO* 211, BIO* 212 and HIM* 101).* For more information, contact Mary Beth Banks at (203) 285-2388 or e-mail mbanks@gatewayct.edu.

DIAGNOSTIC MEDICAL SONOGRAPHY MISSION STATEMENT

The Diagnostic Medical Sonography program at Gateway Community College is committed to educating and preparing competent entry level sonographers who can provide high quality imaging and patient care to members of the community. Furthermore, the program is dedicated to providing tools to support lifelong learning.

DIAGNOSTIC MEDICAL SONOGRAPHY PROGRAM OUTCOMES

The major categories of the Diagnostic Medical Sonographer's Scope of Practice (as defined by the Society of Diagnostic Medical sonographers) include but are not limited to the following areas:

Performance of those procedures, acts, and processes permitted by law for which the individual has received education, clinical experience and in which he/she has proven competency.

Upon successful completion of all program requirements, graduates will:

- Possess the skills necessary to fulfill the responsibilities of an entry level sonographer
- Be didactically prepared to apply to the American Registry of Diagnostic Medical Sonographers for candidacy to the Physics, Abdomen/Small Parts and OB/GYN exams.
- Be didactically prepared to apply to the American Registry of Radiologic Technology sonography certification.
- Demonstrate professional and ethical behavior
- Demonstrate appropriate communication skills with patients and colleagues. Patient care requires the exercise of judgment to assess and respond to patient's needs.
- Use discretion and judgment in the performance of sonographic and/or non-invasive diagnostic services.
- Acquire and analyze data obtained using ultrasound and related diagnostic technologies
- Demonstrate knowledge of quality assurance and bioeffects
- Provide a summary of findings to the physician to aid in patient diagnosis and management
- Use independent judgment and problem solving methods to produce high quality diagnostic information and optimize patient care
- Implement a quality assurance plan
- Maintain a safe laboratory environment

PROGRAM REQUIREMENTS

Freshman Year - Summer Session

Course #	Title	Credits
RST* 200	Cross Sectional Anatomy	3
	Total Semester Credit Hours	**3**

Fall Semester - (Practicum at affiliates Tuesday and Thursday)

Course #	Title	Credits
DMS* 104	Introduction to Abdominal/Small Parts Sonography	3
DMS* 105	Introduction to OB/GYN Sonography	3
DMS* 111	Clinical Practicum I	1
ENG* 101	Composition	3
MAT* 115	Math for Science and Technology	3
PHY* 111	Physics for Life Sciences	4
	Total Semester Credit Hours	**17**

Freshman Year – Winter Intersession - (40 hrs./week at affiliates)

Course #	Title	Credits
DMS* 113	Clinical Internship I	1
	Total Semester Credit Hours	**1**

Freshman Year - Spring Semester - (Practicum at affiliates Tuesday and Thursday)

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
CSC 101	Introduction to Computers	3
DMS* 102	Sonographic Physics and Instrumentation I	3
DMS* 103	Sonographic Imaging and Lab	4
DMS* 112	Clinical Practicum II	1
RST* 217	Clinical Pathology	3
	Total Semester Credit Hours	**17**

Summer Session Clinical Internship I - (40 hrs./week at affiliates)

Course #	Title	Credits
DMS* 126	Clinical Internship II	2
	Total Semester Credit Hours	**2**

Sophomore Year - Fall Semester - (Practicum at affiliates Monday, Wednesday, Friday)

Course #	Title	Credits
DMS* 201	Sonographic Physics and Instrumentation II	3
DMS* 206	Vascular Sonography	3
DMS* 207	GYN Sonography	2
DMS* 211	Clinical Practicum III	1
PSY* 111	General Psychology I	3
Elective	Fine Arts	3
	Total Semester Credit Hours	**15**

Spring Semester - (Practicum at affiliates Monday, Wednesday, Friday)

Course #	Title	Credits
DMS* 203	Advanced Sonographic Applications	3
DMS* 205	Abdominal Sonography	3
DMS* 208	Obstetrical Sonography	3
DMS* 212	Clinical Practicum IV	1
Elective	Humanities	3
	Total Semester Credit Hours	**13**
	Total Credit Hours	**68**

NUCLEAR MEDICINE TECHNOLOGY

Associate in Science

The Associate in Science degree and certificate programs in Nuclear Medicine Technology prepare students for employment as nuclear medicine technologists in hospitals, medical offices, or ambulatory clinics. Upon completion of the program, the student may apply to take the certifying board examinations administered by the American Registry of Radiologic Technology (Nuclear Medicine) and the Nuclear Medicine Technology Certification Board (NMTCB).

The program requires approximately twenty-two (22) months of clinical and academic course work. The curriculum includes appropriate didactic content and ample supervised clinical education to assure sufficient opportunity to achieve all didactic and clinical requirements. Students are assigned to a clinical practicum at Yale-New Haven Hospital, Yale New Haven Hospital St. Raphael Campus, the Veterans Affairs Connecticut Health Care System (West Haven), Middlesex Hospital (Middletown), Griffin Hospital (Derby), Cardinal Health Nuclear Pharmacy Services (East Hartford), Midstate Medical Center (Meriden), Waterbury Hospital, Milford Hospital, William W. Backus Hospital (Norwich), Lawrence & Memorial Hospital (New London), Saint Francis Hospital and Medical Center (Hartford), and UCONN Medical Center (Farmington). Simulated labs are held in the Nuclear Medicine lab at the Gateway campus and are scheduled on lecture days. Students are required to attend all orientation sessions scheduled in the summer in order to begin the program in the fall semester.

Prerequisites for admission: Anatomy & Physiology I (BIO* 211); Anatomy & Physiology II (BIO* 212 time limit restriction); and Medical Terminology (HIM* 101) or transferable equivalents with grades of "C" or better. For more information, call the Enrollment Services Assistant, Lauretta Swiderski at (203) 285-2320 or e-mail at (lswiderski@gatewayct.edu) or the Program Coordinator, Beata Gebuza, at (203) 285-2381 or e-mail at (bgebuza@gatewayct.edu).

NUCLEAR MEDICINE TECHNOLOGY MISSION STATEMENT

The mission of the Gateway Community College Nuclear Medicine Technology program is to achieve and exceed established educational and healthcare standards by continually providing students and the professional community with educational opportunities that reflect the current practice of nuclear medicine technology and results in high quality patient care.

NUCLEAR MEDICINE TECHNOLOGY PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates will:

- Be eligible to take the Nuclear Medicine Technology Exams offered by the American Registry of Radiologic Technologists (ARRT-N) and/or the Nuclear Medicine Technology Certification Board
- Possess the skills necessary to fulfill the responsibilities of an entry-level staff technologist.

The major categories of the nuclear medicine technologist's scope of practice include, but are not limited to, the following areas (as defined in the "Scope of Practice for the Nuclear Medicine Technologist 2012", SNMMI Technologist Section: www.snm.org):

Patient Care: Requires the exercise of judgment to assess and respond to the patient's needs prior to, during, and after procedures in the nuclear medicine department, and in patient medication reconciliation. This includes record-keeping in accordance with the HIPAA.

Quality Control: Requires the evaluation and maintenance of a quality control program for all instrumentation to ensure its proper performance and stability.

Diagnostic Procedures: Requires the utilization of appropriate techniques, and administration of non-radiopharmaceutical agents when part of standard procedures, to ensure quality diagnostic images and/or laboratory results.

Radiopharmaceuticals: Involves the procurement, preparation, quality control, dispensing, dose calculation, identification, documentation, administration, disposal, storage, and safe handling of radioactive materials.

Adjunctive Medications: Involves the identification, preparation, calculation, documentation, administration and monitoring of adjunctive medication(s) used during an in-vitro, diagnostic imaging, or therapeutic procedure. Also included are the preparation and administration of oral and IV contrast used in the performance of imaging studies.

In-Vitro Diagnostic Testing: Involves the acquisition of biological specimens iwth or without oral, intramuscular, intravenous, inhaled or other administration or radiopharmeceuticals and adjunctive medications for the assessment of physiologic function.

Operation of Instrumentation: Involves the operation of imaging instrumentation:

Gamma camera and PET imaging systems with or without sealed sources or radioactive materials or x-ray tubes for attenuation correction, transmission imaging, diagnostic CT (when appropriately educated, trained and/or credentialed);

PET imaging systems with or without sealed sources of radioactive materaisl or x-ray tubes for attenuation correction, transmission imaging, diagnostic CT or MR imaging (when appropriately trained and/or credentialed);

Bone density imaging systems with x-ray tubes; and

Non-imaging instrumentation.

Transmission Imaging: Involves, but is not limited to, the operation of gamma cameras with sealed sources of radioactive material for transmission imaging with single photon emission computed tomography (SPECT) or positron emission tomography (PET) and operation of cameras with x-ray tubes for transmission imaging when performed as part of SPECT/CT or PET/CT. Additionally includes diagnostic CT when performed on SPECT/CT or PET/CT cameras, including the administration of oral and intravenous contrast (requires education in CT) and the operation of scanners with x-ray tubes for the measurement of bone density.

Radionuclide Therapy: Involves patient management, preparation and administration of therapeutic radiopharmaceuticals, under the personal supervision of the Authorized User.

Radiation Safety: Involves, but is not limited to, educating the public while practicing techniques that will minimize radiation exposure to the patient, general public, and health care personnel, through consistent use of protective devices, shields, monitors, and other devices consistent with ALARA (as low as reasonably achievable), as well as decontaminating spills and unplanned releases of radiation."

PROGRAM REQUIREMENTS

Freshman Year - *(NOTE: **Required** orientation sessions will be scheduled during the summer before entry into the program.)*
Fall Semester - (Practicum at affiliates Tuesday and Thursday)

Course #	Title	Credits
ENG* 101	Composition	3
MAT* 172	College Algebra	3
NMT* 101	Introduction to Nuclear Medicine	3
NMT* 102	Nuclear Medicine Procedures I	3
NMT* 111	Clinical Practicum I	1
PHY* 111	Physics for the Life Sciences	4
	Total Semester Credit Hours	**17**

Winter Intersession – (Practicum at affiliates Monday through Friday, 40 hrs./week)

Course #	Title	Credits
NMT* 113	Clinical Internship I	.5
	Total Semester Credit Hours	**.5**

Freshman Year - Spring Semester - (Practicum at affiliates Tuesday and Thursday)

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
CHE* 111	Concepts of Chemistry	4
NMT* 112	Clinical Practicum II	1
NMT* 121	Physics in Nuclear Medicine	3
NMT* 201	Nuclear Medicine Procedures II	3
RST* 217	Clinical Pathology	3
	Total Semester Credit Hours	**17**

Summer Session - (Practicum at affiliates Monday through Friday, May through August)
(40 hrs./week at clinical affiliates)

Course #	Title	Credits
NMT* 126	Clinical Internship II	1.5
	Total Semester Credit Hours	**1.5**

Sophomore Year - Fall Semester - (Practicum at affiliates Monday, Wednesday, and Friday)

Course #	Title	Credits
NMT* 211	Clinical Practicum III	1.5
NMT* 202	Nuclear Medicine Instrumentation	3
NMT* 203	Radiopharmacy	3
RST* 200	Cross Sectional Anatomy	3
PSY* 111	General Psychology I	3
Elective	Fine Arts	3
	Total Semester Credit Hours	**16.5**

Winter Intersession - (Practicum at affiliates Monday through Friday 40 hrs./week)

Course #	Title	Credits
NMT* 216	Clinical Internship III	.5
	Total Semester Credit Hours	**.5**

Sophomore Year - Spring Semester - (Practicum at affiliates Monday, Wednesday, and Friday)

Course #	Title	Credits
NMT* 212	Clinical Practicum IV	1.5
NMT* 221	Nuclear Medicine Procedures III	3
NMT* 222	Intro. to Computers and Nuclear Medicine Appls.	3
NMT* 223	Nuclear Medicine Seminar	3
Elective	Humanities	3
	Total Semester Credit Hours	**13.5**
	Total Credit Hours	**66.5**

Total Clinical Practicum at the affiliates, (includes Clinical Internships I, II and III), is approximately 1,800 hours

NUCLEAR MEDICINE TECHNOLOGY

Certificate

The certificate program in Nuclear Medicine Technology is designed to prepare students for employment as nuclear medicine technologists in hospitals, medical offices, or ambulatory clinics. Upon completion of the program, the student may apply to take the certifying board examinations administered by the American Registry of Radiologic Technology (Nuclear Medicine) and the Nuclear Medicine Technology Certification Board (NMTCB). The program requires approximately twenty-two (22) months of clinical and academic coursework. The structure of the curriculum includes appropriate didactic content and ample supervised clinical education to assure sufficient opportunity to achieve all didactic and clinical requirements.

Students are assigned to a clinical practicum at Yale-New Haven Hospital, Yale New Haven Hospital St. Raphael Campus, the Veterans Affairs Connecticut Health Care System (West Haven), Middlesex Hospital (Middletown), Griffin Hospital (Derby), Cardinal Health Nuclear Pharmacy Services (East Hartford), Midstate Medical Center (Meriden), Waterbury Hospital, Milford Hospital, William W. Backus Hospital (Norwich), Lawrence & Memorial Hospital (New London), Saint Francis Hospital and Medical Center (Hartford), and UCONN Medical Center (Farmington). Simulated labs are held in the Nuclear Medicine lab at the Gateway campus and are scheduled on lecture days. Students are required to attend all orientation sessions scheduled in the summer in order to begin the program in the fall semester.

Prerequisites for admission: Anatomy & Physiology I (BIO* 211); Anatomy & Physiology II (BIO* 212 time limit restriction); and Medical Terminology (HIM* 101) or transferable equivalents with grades of "C" or better. For more information, call the Enrollment Services Assistant, Lauretta Swiderski at (203) 285-2320 or e-mail at (lswiderski@gatewayct.edu) or the Program Coordinator, Beata Gebuza, at (203) 285-2381 or e-mail at (bgebuza@gatewayct.edu).

Prerequisites

Certificate program applicants must possess all of the following prerequisites:

A. An associate degree in one of the following modalities:

   Radiography
   Radiation Therapy
   Diagnostic Medical Sonography

The following policy may apply to applicants who do not possess an associate degree:

   Gateway Community College will grant credit to those applicants who are graduates of a two-year accredited hospital (certificate) based program and hold certification by the American Registry of Radiologic Technologists. Certification areas include: Radiography, Nuclear Medicine, Diagnostic Medical Sonography, and Radiation Therapy. (see ARRTS program)

B. Current and active credentials by one of the following certifying boards:

   American Registry of Radiologic Technologists-Radiography (RTR)
   American Registry of Radiologic Technologists-Radiation Therapy (RTT)
   American Registry of Diagnostic Medical Sonographers (RDMS)

C. The applicant must have completed the following courses with a "C" or better in their A.S. Degree program to be eligible for the NMT Certificate Program: Concepts of Chemistry (CHE* 111); College Algebra (MAT* 172); Physics for the Life Sciences (PHY* 111); human anatomy and physiology with lab; medical terminology content; humanities course; oral communications; written communications and social science course.

PROGRAM OUTCOMES

Program outcomes for Nuclear Medicine Technology Certificate Program are the same as for Nuclear Medicine Technology Associate in Science Degree (see degree outcomes).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester - (Practicum at affiliates Tuesday and Thursday)

Course #	Title	Credits
NMT* 102	Nuclear Medicine Procedures I	3
NMT* 111	Clinical Practicum I	1
	Total Semester Credit Hours	**4**

Freshman Year - Spring Semester – (Practicum at affiliates Tuesday and Thursday)

Course #	Title	Credits
NMT* 112	Clinical Practicum II	1
NMT* 121	Physics in Nuclear Medicine	3
NMT* 201	Nuclear Medicine Procedures II	3
	Total Semester Credit Hours	**7**

Summer Session (Practicum at affiliates Monday through Friday, May through August)

(40 hrs./week at clinical affiliates)

Course #	Title	Credits
NMT* 126	Clinical Internship II	1.5
	Total Semester Credit Hours	**1.5**

Sophomore Year - Fall Semester - (Practicum at affiliates Monday, Wednesday, and Friday)

Course #	Title	Credits
NMT* 202	Nuclear Medicine Instrumentation	3
NMT* 203	Radiopharmacy	3
NMT* 211	Clinical Practicum III	1.5
RST* 200	Cross Sectional Anatomy	3
	Total Semester Credit Hours	**10.5**

Winter Intersession (Practicum at affiliates Monday through Friday,40 hrs./week)

Course #	Title	Credits
NMT* 216	Clinical Internship III	.5
	Total Semester Credit Hours	**.5**

Sophomore Year - Spring Semester - (Practicum at affiliates Monday, Wednesday, and Friday)

Course #	Title	Credits
NMT* 212	Clinical Practicum IV	1.5
NMT* 221	Nuclear Medicine Procedures III	3
NMT* 222	Intro. to Computers and Nuclear Medicine Appls.	3
NMT* 223	Nuclear Medicine Seminar	3
	Total Semester Credit Hours	**10.5**
	Total Credit Hours	**34**

RADIATION THERAPY

Associate in Science

A Radiation Therapist delivers radiation treatment as prescribed by a physician for the treatment of disease, primarily cancer. The Radiation Therapist will monitor patients' physical condition and response to treatment. The associate degree program in radiation therapy is based on twenty-two (22) months of full time study. The curriculum prepared students for employment as entry-level Radiation Therapist in hospitals and cancer centers. Upon successful completion of the program, students are eligible to take the American Registry of Radiologic Technologists (ARRT) board examination (Radiation Therapy). For more information, call the Program Director Gina Finn, at (203) 285-2392 or e-mail at (gfinn@gatewayct.edu).

Please see the Radiologic Technology Programs webpage for more information about the admission process.

Program Curriculum:

The structure of the curriculum is such that courses are offered in sequence and progress in complexity. It offers appropriate didactic content and ample supervised clinical education to assure sufficient opportunity to achieve all didactic and clinical requirements established by the ARRT. Clinical education takes place in hospitals and cancer centers. Students will rotate through all clinical settings during the length of the Program. The following clinical sites are: Yale-New Haven Hospital, Yale New Haven Father McGivney Cancer Center New Haven and Hamden Campuses, Danbury Hospital, Norma F. Pfriem Cancer Center Bridgeport Hospital in Trumbull CT, and Lawrence and Memorial Hospital. Transportation and parking are the student's responsibility.

The following pre-requisites must be completed with a grade of C or higher before applying to the Program:

> * BIO*211, Anatomy & Physiology I
>
> * BIO*212, Anatomy & Physiology II
>
> * HIM*101, Medical Terminology

The Program is accredited by the Board of Governors for Higher Education and the Joint Review Committee on Education in Radiologic Technology (JRECRT), 20 N. Wacker Drive, Suite 2850, Chicago, IL 60606-3182, (312)704-5300, www.jrcert.org.

RADIATION THERAPY PROGRAM MISSION STATEMENT:

The Radiation Therapy Program at Gateway Community College is committed to educating and preparing competent, entry-level therapists who provide high quality patient care to members of the community. Furthermore, the Program is dedicated to providing tools to support life-long learning.

RADIATION THERAPY PROGRAM GOALS

1. Graduates in the Gateway Community College Radiation Therapy Program will demonstrate skills in effective written and oral communication.

2. Graduates in the Gateway Community College Radiation Therapy Program will demonstrate skills in effective critical thinking and problem solving in the principles and practices of Radiation Therapy.

3. Graduates in the Gateway Community College Radiation Therapy Program will achieve personal and professional growth.

4. Graduates in the Gateway Community College Radiation Therapy Program will be clinically competent in the practice of Radiation Therapy.

5. The Program will prepare graduates to be entry-level Radiation Therapists.

RADIATION THERAPY PROGRAM OUTCOMES

Upon successful completion of all Program requirements, the graduate should be able to:

- Evaluate and assess treatment delivery components.

- Provide radiation therapy treatment delivery services to cure or improve the quality of life of patients by accurately delivering a prescribed course of treatment.

- Evaluate and assess daily the physiological and psychological responsiveness of each patient to treatment delivery.

- Maintain values congruent with the professional code of ethics and scope of practice while adhering to national, institutional and/or departmental standards, policies and procedures regarding treatment delivery and patient care.

- Meet the criteria to apply for the American Registry of Radiologic Technologists (ARRT) certification exam

PROGRAM REQUIREMENTS

Freshman Year – Fall Semester - *(NOTE: **Required** orientation sessions will be scheduled during the summer before entry into the program.)* (Practicum at affiliates Tuesday and Thursday)

Course #	Title	Credits
ENG* 101	Composition	3
MAT* 115	Mathematics for Science and Technology	3
PHY* 111	Physics for the Life Sciences	4
RDT* 101	Introduction to Radiation Therapy I	3
RDT* 111	Clinical Practicum I	1
RST* 200	Cross Sectional Anatomy	3
	Total Semester Credit Hours	**17**

Winter Intersession - (40 hrs./week at clinical affiliates)

Course #	Title	Credits
RDT* 113	Clinical Internship I	1
	Total Semester Credit Hours	**1**

Freshman Year - Spring Semester - (Clinical Practicum at hospital Tuesday and Thursday)

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
PSY* 111	General Psychology I	3
RDT* 102	Radiation Therapy II	3
RDT* 112	Clinical Practicum II	1
RST* 213	Radiation Physics	3
Elective	Fine Arts	3
	Total Semester Credit Hours	**16**

Summer Session - (40 hrs./week at clinical affiliates Monday through Friday, May through August)

Course #	Title	Credits
RDT* 126	Clinical Internship II	3
	Total Semester Credit Hours	**3**

Sophomore Year - Fall Semester - (Practicum at affiliates Monday, Wednesday, and Friday)

Course #	Title	Credits
RDT* 201	Radiation Oncology I	3
RDT* 202	Radiation Therapy III	3
RDT* 205	Dosimetry and Computer Asst. Treatment Planning	3
RDT* 211	Clinical Practicum III	2
Elective	Humanities	3
	Total Semester Credit Hours	**14**

Winter Intersession: (40 hrs./week at affiliates Monday through Friday)

Course #	Title	Credits
RDT* 218	Clinical Internship III	1
	Total Semester Credit Hours	**1**

Spring Semester - (Practicum at affiliates Monday, Wednesday, and Friday)

Course #	Title	Credits
RDT* 203	Radiation Oncology II	3
RDT* 204	Radiation Therapy IV	3
RDT* 212	Clinical Practicum IV	2
RDT* 222	Radiobiology and Protection	3
RDT* 223	Radiation Physics II	3
RDT* 224	Radiation Therapy Senior Seminar	2
	Total Semester Credit Hours	**16**
	Total Credit Hours	**68**

Total practicum at the clinical affiliates, including Clinical Internships I, II, and III, is approximately 2,000 hours.

RADIOGRAPHY

Associate in Science

The Associate Degree program in Radiography prepares students for employment as entry-level radiographers in hospitals, outpatient facilities, medical offices, community health agencies, or industrial concerns where radiation is used for quality control. Upon completion of the program, the student may apply to take the certifying board examination administered by the American Registry of Radiologic Technology (Radiography).

The program requires approximately twenty (20) months of full-time study. The structure of the curriculum is sequential and includes appropriate didactic content and ample supervised clinical education to assure sufficient opportunity to achieve all didactic and clinical requirements. Students are assigned to a clinical practicum at: Yale-New Haven Hospital, Veterans Affairs New England Health Care System (West Haven), Bridgeport Hospital, Griffin Hospital, Yale Pediatric Speciality Center, Yale Spine Center and Yale Sports Medicine Center. Students are required to attend all orientation sessions scheduled in the summer in order to begin the program in the fall semester. For more information, call the Enrollment Services Assistant, Lauretta Swiderski at (203) 285-2320 or e-mail at (lswiderski@gatewayct.edu) or the Program Coordinator, Julie Austin, at (203) 285-2382 or e-mail at (jaustin@gatewayct.edu). Please see the Radiologic Technology Programs webpage for more information about the admissons process.

RADIOGRAPHY PROGRAM MISSION STATEMENT

The Radiography program at Gateway Community College is committed to educating and preparing competent, entry-level technologists who can provide high quality imaging and patient care to members of the community. Furthermore, the program is dedicated to providing tools to support life-long learning.

RADIOPGRAPHY PROGRAM GOALS

1. Students will demonstrate skills in effective oral and written communication
2. Students will demonstrate skills in critical thinking and problem solving in the principles and practices of Radiography
3. Students will demonstrate clinical competence in the practice of Radiography
4. The Program will prepare competent entry-level technologists
5. Students will achieve personal and professional growth

RADIOGRAPHY PROGRAM OUTCOMES

Upon successful completion of all program requirements, the graduate should be able to:

- Competently perform procedures and tasks necessary to fulfill the responsibilities of an entry-level staff technologist
- Consistently apply the principles of radiation safety and protection for patient, self and others
- Evaluate and assess patients to ensure quality patient care and accurate performace of exams
- Maintain values congruent with the professional code of ethics and scope of practice while adhering to national, institutional and/or departmental standards, policies and procedures regarding imaging and patient care
- Meet the criteria to apply for the American Registry of Radiologic Technologists (ARRT) certification exam. Participate in professional organizations

PROGRAM REQUIREMENTS

Freshman Year *(NOTE: **Required** orientation sessions will be scheduled during the summer before entry into the program.)*

Fall Semester (Clinical practicum held at clinical affiliates Tuesdays and Thursdays from 8:00 am - 4:30 pm or 4:00 pm - 10:00 pm as assigned)

Course #	Title	Credits
ENG* 101	Composition	3
MAT* 115	Mathematics for Science and Technology	3
PHY* 111	Physics for the Life Sciences	4
RAD* 104	Introduction to Radiography	3
RAD* 105	Radiographic Anatomy and Procedures I	3
RAD* 193	Clinical Practicum I	1
	Total Semester Credit Hours	**17**

Winter Intersession (40 hrs./week at clinical affiliates from 8:00 am - 4:30 pm or 4:00 pm to 10:00 pm as assigned)

Course #	Title	Credits
RAD* 187	Clinical Internship I	1
	Total Semester Credit Hours	**1**

Freshman Year - Spring Semester (Clinical practicum held at clinical affiliates Tuesdays and Thursdays from 8:00 am - 4:30 pm or 4:00 pm - 10:00 pm as assigned)

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
RAD* 116	Physics in Radiography	3
RAD* 194	Clinical Practicum II	1
RAD* 204	Radiographic Anatomy and Procedures II	3
Elective	Fine Arts	3
	Total Semester Credit Hours	**13**

Summer Session (40 hrs./week at clinical affiliates from 8:00 am - 4:30 pm or 4:00 pm to 10:00 pm as assigned)

Course #	Title	Credits
RAD* 188	Clinical Internship II	2
RST* 200	Cross Sectional Anatomy	3
	Total Semester Credit Hours	**5**

Sophomore Year - Fall Semester (Clinical practicum held at clinical affiliates Mondays, Wednesdays and Fridays from 8:00 am - 4:30 pm or 4:00 pm - 10:00 pm as assigned)

Course #	Title	Credits
PSY* 111	General Psychology I	3
RAD* 196	Radiographic Anatomy and Procedures III	3
RAD* 215	Radiographic Pathology	3
RAD* 203	Principles of Radiographic Exposure	3
RAD* 291	Clinical Practicum III	1
	Total Semester Credit Hours	**13**

Winter Intersession (40 hrs./week at clinical affiliates from 8:00 am - 4:30 pm or 4:00 pm to 10:00 pm as assigned)

Course #	Title	Credits
RAD* 286	Clinical Internship III	1
	Total Semester Credit Hours	**1**

Spring Semester (Clinical practicum held at clinical affiliates Mondays, Wednesdays and Fridays from 8:00 am - 4:30 pm or 4:00 pm - 10:00 pm as assigned)

Course #	Title	Credits
RAD* 205	Computers in Medical Imaging: Adv. Practice	3
RAD* 206	Quality Assurance	3
RAD* 218	Senior Seminar	3
RAD* 222	Radiobiology and Protection	3
RAD* 292	Clinical Practicum IV	1
Elective	Humanities	3
	Total Semester Credit Hours	**16**
	Total Credit Hours	**66**

ART

STUDIO ART

Associate in Science

The Studio Art program provides a strong basic foundation in the visual arts along with a background in general education. Furthermore, it prepares students for continued study or for employment by enabling them to build a portfolio of artwork that exhibits their proficiency in Studio Art. For students seeking greater personal and creative fulfillment, this program also promotes art as an avocation. For more information, call Nicholas Halko at (203) 285-2241 or e-mail at (nhalko@gatewayct.edu).

STUDIO ART PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Demonstrate skills, techniques, and manipulation of tools and equipment necessary for studio or graphic arts as described in the course syllabi
- Demonstrate an understanding of art and design concepts and problem solving as described in the course syllabi
- Compile a portfolio of work reflecting knowledge, techniques, and creativity gained during a student's course of study
- Demonstrate an understanding of the process of creating a finished work and preparing an exhibition
- Communicate and critique using specific art vocabulary

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
ENG* 102 or ENG* 200	Literature and Composition Advanced Composition	3
MAT* 137	Intermediate Algebra	3
Elective	Computer Literacy	3
Elective	Natural Science (with or without a lab)	3-4
Elective	Social Science	3
Elective (A or B)	Art History	3
Total Credit Hours		**24-25**

PROGRAM REQUIREMENTS

Course #	Title	Credits
ART* 109	Color Theory	3
ART* 111	Drawing I	3
ART* 112	Drawing II +	3
ART* 121	Two Dimensional Design	3
ART* 122	Three Dimensional Design	3
ART* 131	Sculpture I	3
ART* 141	Photography I	3
ART* 151	Painting I	3
Elective (A)	Humanities	3
Total Credit Hours		**27**

Courses in Option

Course #	Title	Credits
ART* 152	Painting II +	3
ART* 251	Painting III +	3
Elective (X)	Studio Art	3
Elective (B or X)	Art History	3
Total Credit Hours		**63-64**

Electives A - Selected with advisement by the Program Coordinator

Electives B - Art History Electives

Course #	Title	Credits
ART* 101	Art History I	3
ART* 102	Art History II	3
ART* 103	Art History III	3
ART* 204	Women Artists +	3

Electives X – Studio Art Electives

Course #	Title	Credits
ART* 142	Photography II +	3
ART* 132	Sculpture II +	3
ART* 176	Digital Video Art I (Film Making)	3
GRA* 231	Digital Imaging (Photoshop)	3
ART* 299	Independent Study +	3

+ Prerequisite required

STUDIO ART: GRAPHIC DESIGN OPTION

Associate in Science

The Studio Art: Graphic Design Option program provides a strong basic foundation in the visual arts along with a background in general education. Furthermore, it prepares students for continued studies or employment by enabling them to build a portfolio of artwork that exhibits a degree of proficiency in graphic design. For students seeking greater personal and creative fulfillment, this program will also promotes art as an avocation. For more information, call Nicholas Halko at (203) 285-2241 or e-mail at (nhalko@gatewayct.edu).

STUDIO ART: GRAPHIC DESIGN OPTION PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Demonstrate skills, techniques, and manipulation of tools and equipment necessary for studio or graphic arts as described in the course syllabi
- Demonstrate an understanding of art and design concepts and problem solving as stated in the course syllabi
- Compile a portfolio of work reflecting knowledge, techniques, and creativity gained during a student's course of study
- Demonstrate an understanding of the process of creating a finished work and preparing an exhibition
- Communicate and critique using specific art vocabulary

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
ENG* 102 or ENG* 200	Literature & Composition / Advanced Composition	3
MAT* 137	Intermediate Algebra	3
Elective	Computer Literacy	3
Elective	Natural Science (with or without a lab)	3-4
Elective	Social Science	3
Elective (A or B)	Art History	3
Total Credit Hours		**24-25**

PROGRAM REQUIREMENTS

Course #	Title	Credits
ART* 109	Color Theory	3
ART* 111	Drawing I	3
ART* 112	Drawing II +	3
ART* 121	Two Dimensional Design	3
ART* 122	Three Dimensional Design	3
ART* 131	Sculpture I	3
ART* 141	Photography I	3
ART* 151	Painting I	3
GRA* 261	Web Design I	3
Elective	Humanities	3
Total Credit Hours		**30**

Courses in Option

Course #	Title	Credits
GRA* 151	Graphic Design I	3
GRA* 252	Graphic Design II +	3
GRA* 241	Digital Page Design I (InDesign/QuarkXPress)	3
Elective (Z)	Graphic Design	3
	Total Semester Credit Hours	**12**
	Total Credit Hours	**66-67**

Electives A - Selected with advisement by the Program Coordinator

Electives Z – Graphic Design Electives

Course #	Title	Credits
ART* 113	Figure Drawing I	3
ART* 142	Photography II +	3
ART* 176	Digital Video Art I (Film Making)	3
GRA* 231	Digital Imaging (Photoshop)	3
GRA* 237	Computer Graphics (Adobe Illustrator)	3
Elective	Graphic Design	3
	Total Credit Hours	**66-67**

+ Prerequisite required

WEB DESIGN

Certificate

The Web Design certificate can be used as a stepping stone to the Studio Art/Graphic Design Option degree program. It will prepare the student for transfer onto a Baccalaureate Degree Program at a four year institution. It can also be helpful in gaining employment or to further enhance current skills for those who are already employed. Web Design is becoming more and more necessary in small business and corporate settings and a skilled web designer must be in place to accommodate this need. For more information, call Nicholas Halko at (203) 285-2241 or e-mail at (nhalko@gatewayct.edu).

WEB DESIGN LEARNING OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Create industry-standard web publication
- Recognize typography standards for web publication
- Discern color functions optimized for web publication
- Analyze and structure XHTML code and CSS for web publication
- Recognize current standards for optimizing graphics for electronic distribution
- Utilize Adobe Illustrator and Photoshop to process graphics for web use

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
GRA* 151	Graphic Design I	3
GRA* 231	Digital Imaging (Adobe Photoshop)	3
GRA* 237	Computer Graphics (Adobe Illustrator)	3
GRA* 241	Digital Page Design (QuarkXPress)	3
GRA* 261	Web Design I	3
Elective	GRA* 252 Graphic Design II (recommended)	3
	Total Credit Hours	**18**

ALTERNATIVE ENERGY TRANSPORTATION TECHNOLOGY

Certificate

The Alternative Energy Transportation Technology program will provide students with entry-level mechanical skills required to fill technical jobs in alternative energy transportation operations and to perform overall performance evaluations of the most commonly deployed alternative energy systems used in transportation. Mechanical skills for work to be performed on these systems will be taught in a laboratory environment in which students learn to work with tools, equipment and materials commonly used to operate, maintain, repair and analyze alternative energy systems.

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
AUT* 110 or AUT* 120 or AUT* 130	GM Engine Repair or Toyota Engine Repair or Automotive Engine Repair	3
AUT* 114 or AUT* 124 or AUT* 134	GM Electrical Systems or Toyota Electrical Systems or Automotive Electrical Systems	3.5
AFV* 110	Introduction to Clean Energy Transpotation	3.5
AFV* 120	Power Transmission for AFVs	3.5
	Total Semester Credit Hours	**13.5**

Freshman Year - Spring Semester

Course #	Title	Credits
AFV* 130	Electric & Hybrid Vehicle Drive Systems I	3.5
AFV* 140	Gaseous and Liqueid Fuels I	3.5
AFV* 150 or ENV* 100	Internship I or Intro. to Alternative Fuel Energy Systems	3
AUT* 201 AUT* 221 AUT* 231	GM Engine Performance Toyota Engine Performance Fuel Systems	3.5
	Total Semester Credit Hours	**13.5**
	Total Credit Hours	**27**

ALTERNATIVE FUEL VEHICLE

Certificate

The Alternative Fuel Vehicle program is a cooperative venture among Gateway Community College, the New England Gas Association (NEGA), and the Connecticut Gas Companies. Classes address the preparation of a vehicle for conversion to compressed natural gas; installing natural gas components, fuel systems, and emission control devices; maintenance procedures for needed repairs; inspection of emission control devices; and fuel storage and delivery systems. Furthermore, the program presents theories and principles of using natural gas engines in vehicles. These include diagnostic and repair procedures for natural gas components, supplemental systems, and fuel delivery systems. This program also prepares students for the new National Institute for Automotive Service Excellence (ASE) certification examination. For more information, call Wayne Demske, Program Coordinator at (203) 285-2334 or e-mail at (wdemske@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
AUT* 110 or AUT* 120	GM Engine Repair Toyota Engine Repair	3
AUT* 114 or AUT* 124	GM Electrical Systems Toyota Electrical Systems	3.5
Restricted Elective +		4
	Total Semester Credit Hours	**10.5**

Freshman Year - Spring Semester

Course #	Title	Credits
AUT* 201 or AUT* 221	GM Engine Performance Toyota Engine Performance	3.5
AUT* 260 or AUT* 270	Internship III Internship IV	2
AFV* 238	Hybrid Vehicle	3
	Total Semester Credit Hours	**8.5**
	Total Credit Hours	**19**

+ Restricted Electives

Course #	Title
AFV* 240	CNG Installation & Maintenance
AFV* 244	Electric Fuel
AFV* 246	CNG Diagnosis & Repair

AUTOMOTIVE TECHNOLOGY PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Apply language arts and communications skills related to the occupation, including but not limited to reading, writing, and oral communication
- Perform mathematics related to the occupation, including but not limited to algebra, arithmetic, decimals, and graphs
- Use scientific methods and critical thinking to solve problems related to the occupation, including but not limited to resume preparation, seeking employment, maintaining a safe and healthy workplace environment, demonstrating workplace ethics, and teamwork
- Demonstrate workplace skills related to the occupation, including but not limited to resume preparation, seeking employment, maintaining a safe and healthy workplace environment, demonstrating workplace ethics, and teamwork
- Apply knowledge of theory and safety to accomplish certain tasks related to the occupation Identify and use appropriate tools, testing, and measurement equipment to accomplish certain tasks related to the occupation
- Use current reference and training materials from accepted industry publications and standards to accomplish certain tasks related to the occupation
- Make general engine diagnoses of and repairs on, among other components, the engine's cylinder heads, valve train, block, lubrication, and cooling system
- Maintain, adjust, diagnose, and repair transmissions and transaxles
- Diagnose, service, adjust, align, and repair suspension and steering systems (including wheel and tire)
- Perform general maintenance, adjustments, diagnoses, and repairs on disc and/or drum brake system hydraulics, power assists, and ABS (antilock brakes)
- Perform general maintenance, adjustment diagnosis, and repair on electric/electronic systems, including but not limited to starting, charging, lighting, wiring, and accessories
- Perform general maintenance, adjustment, diagnosis, and repair on heating and air conditioning systems and components
- Perform general maintenance, diagnosis, adjustments, and repair on engine performance factors, including but not limited to computer controls, ignition, fuel exhaust, and emissions systems
- Apply knowledge of computer applications, including word processing, spreadsheets, graphs, and other software related to the occupation

AUTOMOTIVE TECHNOLOGY

GENERAL MOTORS - AUTOMOTIVE SERVICE EDUCATION PROGRAM (ASEP)
Associate in Applied Science

The Automotive Service Education Program (ASEP) was designed by General Motors and Gateway Community College. This unique, cooperative program trains students for a challenging career in a General Motors and AC Delco sponsored automotive repair facilities. Through a special arrangement, students attend classes and labs at the North Haven Campus and then work full-time at a sponsoring GM or AC Delco garage. Students in the ASEP program receive state-of-the-art instruction on General Motors' products. Vehicles, parts, engines, tools, training manuals, and materials are provided by General Motors Corporation.

Students seeking acceptance into the Automotive Technology (GM-ASEP) A.A.S. degree program will have to apply to the program by April 20 prior to their enrollment in the program. Requirements to apply are:

1.   Complete the program application form
2.   Complete all developmental mathematics courses (if necessary) and be eligible for MAT* 115
3.   Complete all developmental English courses (if necessary) and be eligible for ENG* 101
4.   Comlete AUT* 112, AUT* 122, AUT* 132, or test out of an automotive specification course in accordance to college policy
5.   Complete the Automotive Programs' placement exam
6.   Interview with the Program Coordinator for the program that the student is applying
7.   Have a valid driver's license issued by one of the 50 states in United States that does not have any restrictions that would prohibit the student from operating an automotive on public roads

Selection of students will be completed by June 1 and students will be notified shortly after. Once students are selected for enrollment into the program, they will have until August 20 to find a sponsor for their internships at a GM automotive dealership or AC Delco repair facility to remain in the degree program. Sponsorship of students is a requirement throughout the program to include at the time of graduation from Gateway Community College. Upon completion of the ASEP program, students will receive an Associate in Applied Science degree in Automotive Technology from Gateway Community College. The program offers opportunities for future specialization and advancement to management. This program has been evaluated by the National Automotive Technicians Education Foundation Inc. (NATEF) and certified by the National Institute for Automotive Service Excellence (ASE). Students are encouraged to take the National Institute for Automotive Service Excellence (ASE) exams for each of the eight automotive subject areas for national certification. For more information, call the Program Coordinator, Daniel Fuller at (203) 285-2370 or e-mail at (dfuller@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
AUT* 112	GM Specifications	2
AUT* 116	GM Suspension and Steering	3
AUT* 118	GM Brakes	3.5
AUT* 161	GM Internship 1A	1
ENG* 101	Composition	3
MAT* 115	Math for Science & Technology	3
	Total Semester Credit Hours	**15.5**

Winter Intersession Session

Course #	Title	Credits
AUT* 162	GM Internship 1B	1

Freshman Year - Spring Semester

Course #	Title	Credits
AUT* 110	GM Engine Repair	3
AUT* 114	GM Electrical Systems	3.5
AUT* 163	GM Internship 1C	1
CET* 116	Computer Applications for Technology	3
COM* 171	Communications	3
	Total Semester Credit Hours	**13.5**

Summer Session

Course #	Title	Credits
AUT* 171	GM Internship 2	3

Sophomore Year - Fall Semester

Course #	Title	Credits
AUT* 201	GM Engine Performance	3.5
AUT* 203	GM Manual Drive Train and Axles	3.5
AUT* 261	GM Internship 3A	1
Elective	Humanities (Restricted)+	3
Elective	Social Science	3
	Total Semester Credit Hours	**14**

Winter Intersession Session

Course #	Title	Credits
AUT* 262	GM Internship 3B	1

Sophomore Year - Spring Semester

Course #	Title	Credits
AUT* 205	GM Automatic Transmission and Transaxle	3.5
AUT* 207	GM Heating and Air Conditioning	3.5
AUT* 263	GM Internship 3C	1
PHY* 109	Fundamentals of Applied Physics	4
Elective	Fine Arts	3
	Total Semester Credit Hours	**15**

Summer Session

Course #	Title	Credits
AUT* 271	GM Internship 4	3
	Total Credit Hours	**66**

+ Humanities Restricted Electives: ENG* 102, ENG* 200, or ENG* 202

GENERAL AUTOMOTIVE TECHNOLOGY

Associate in Applied Science Degree

The objective of the General Automotive Technology Degree Program is to train those seeking employment in the field of automotive technician. It will prepare students for entry-level employment as automotive technicians as well as training for students already employed. The Automotive Mechanic and Technician field is one of the highest employment areas in the State. The intent of the program is to meet the growing need of technicians in the college service region. This program furthers the college's mission to "respond to the changing academic, occupational, technological,…needs" by offering "a broad range of credit…technical and career…programs and courses leading to transfer, employment and lifelong learning."

For more information on the General Automotive Degree, call Wayne Demske, Program Coordinator, at (203) 285-2334 or e-mail at (wdemske@gatewayct.edu).

AUTOMOTIVE TECHNOLOGY DEGREE PROGRAM OUTCOMES

Upon successful completion of all program requirements, the graduates should be able to:

- Apply language arts and communication skills related to the occupation, including but not limited to: reading, writing, and oral communications
- Perform mathematics related to the occupation, including but not limited to: algebraic expressions, arithmetic, decimals, and graphs.
- Use scientific methods and critical thinking to solve problems in science related to the occupation, including but not limited to: preparing resumes, seeking employment, maintaining a safe and healthy workplace environment, demonstrating workplace ethics, and teamwork.
- Apply knowledge of theory and safety to accomplish certain tasks related to the occupation.
- Apply knowledge of general engine diagnosis and repair, including but not limited to: the engine's cylinder heads, valve train, block, lubrication, and cooling system.
- Apply knowledge of transmission and transaxle maintenance, adjustment, diagnosis, and repair.
- Apply knowledge of suspension and steering systems (including wheel and tire), diagnosis, service, adjustments, alignment, and repair.
- Apply knowledge of general disc and/or drum brake system hydraulics, power assist and ABS (antilock brakes) maintenance, adjustment, diagnosis and repair.
- Apply knowledge of general electric/electronic systems including but not limited to: starting, charging, lighting, wiring, accessories, diagnosis and repair.
- Apply knowledge of general heating and air conditioning systems and their components, maintenance, adjustment, diagnosis and repair.
- Apply knowledge of general engine performance, including but not limited to: computer controls, ignition, fuel exhaust, and emissions systems and their maintenance, diagnosis, adjustments and repair.
- Apply knowledge of computer applications, including word processing, spreadsheets, graphs, and other software related to the occupation.

Freshman Year - Fall Semester

Course #	Title	Credits
AUT* 132	Specifications	2
AUT* 136	Suspension and Steering	3
AUT* 138	Brakes	3.5
ENG* 101	Composition	3
MAT* 115	Math for Science and Technology	3
	Total Semester Credit Hours	**14.5**

Freshman Year - Spring Semester

Course #	Title	Credits
AUT* 130	Engine Repair	3
AUT* 134	Electrical Systems	3.5
CET* 116	Computer Applications for Technology	3
COM* 171	Fundamentals of Human Communication	3
Elective	AUT* or AFV* (non-internship)	3-4
	Total Semester Credit Hours	**15.5 - 16.5**

Summer Semester

Course #	Title	Credits
AUT* 170	Internship 2	4

Sophomore Year - Fall Semester

Course #	Title	Credits
AUT* 231	Fuel Systems	3.5
AUT* 233	Manual Transmissions & Transaxles	3.5
AUT* 260	Internship 3	2
PHY* 109	Fundamentals of Applied Physics	4
Elective	Social Science	3
	Total Semester Credit Hours	**16**
	Total Credit Hours	

Sophomore Year - Spring Semester

Course #	Title	Credits
AUT* 235	Automatic Transmissions & Transaxles	3.5
AUT* 237	Heating and Air Conditioning	3.5
AUT* 270	Internship 4	2
Elective	Fine Arts	3
Elective	Humanities	3
	Total Semester Credit Hours	**15**
	Total Credit Hours	**65 - 66**

GENERAL AUTOMOTIVE TECHNOLOGY

Certificate

The objective of the General Automotive Technology Certificate Program is to train highly-skilled automotive technicians through a college training and internship program. The intent of the program is to meet the growing need of technicians in the college service region. This program furthers the college's mission to "respond to the changing academic, occupational, technological,…needs" by offering "a broad range of credit…technical and career…programs and courses leading to transfer, employment and lifelong learning."

The General Automotive Technology Certificate program is related to the existing Gateway corporate sponsored automotive Associate Degree programs. It is also consistent with the college goal of supporting "economic development through partnerships with business, industry,…by providing workforce development,…"

The General Automotive Technology Certificate Program provides training in the most current technology to prepare students for entry-level employment as automotive technicians, as well as upgraded training for technicians already employed.

AUTOMOTIVE TECHNOLOGY CERTIFICATE PROGRAM OUTCOMES

Upon successful completion of all program requirements, the graduates should be able to:
- Demonstrate workplace skills related to the occupation, including but not limited to: preparing resumes, seeking employment, maintaining safe and healthy workplace ethics, and teamwork
- Apply knowledge of theory and safety to accomplish certain tasks related to the occupation
- Identify and use appropriate tools, testing, and measurement equipment to accomplish certain
- tasks related to the occupation
- Use current reference and training materials from accepted industry publications and standards
- to accomplish certain tasks related to the occupation
- Apply knowledge of general engine diagnosis and repair, including but not limited to: the
- engine's cylinder heads, valve train, block, lubrication, and cooling system
- Apply knowledge of transmission and transaxle maintenance, adjustment, diagnosis, and repair
- Apply knowledge of suspension and steering systems (including wheel and tire), diagnosis, service, adjustments, alignment, and repair
- Apply knowledge of general disc and/or drum brake system hydraulics, power assist and ABS (antilock brakes), maintenance, adjustment, diagnosis, and repair
- Apply knowledge of general electric/electronic systems, including but not limited to: starting, charging, lighting, wiring, accessories, diagnosis, and repair.
- Apply knowledge of general heating and air conditioning systems and their components, maintenance, adjustment, diagnosis, and repair
- Apply knowledge of general engine performance, including but not limited to: computer controls, ignition, fuel exhaust, and emissions systems, and their maintenance, diagnosis, adjustments, and repair.

Each student accepted into the program must purchase orpossess the tools required for the program, have a valid driver's license, and wear an automotive uniform while attending classes. For more information, call Scott McFarland at (203) 285-2405 or e-mail at (smcfarland@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
AUT* 130	Engines	3
AUT* 132	Automotive Specifications	2
AUT* 134	Electrical Systems	3.5
AUT* 136	Frames & Suspension	3
AUT* 138	Brakes	3.5
	Total Semester Credit Hours	**15**

Freshman Year - Spring Semester

Course #	Title	Credits
AUT* 231	Fuel Systems	3.5
AUT* 233	Manual Transmission & Transaxles	3.5
AUT* 237	Heating & Air Conditioning	3.5
AFV* 238	Hybrid Vehicle	3
	Total Semester Credit Hours	**13.5**

Summer Semester

Course #	Title	Credits
AUT* 170	Internship II	4

Sophomore Year - Fall Semester

Course #	Title	Credits
AUT* 260	Internship III	2
AUT* 235	Automatic Transmission & Transaxles	3.5
	Total Semester Credit Hours	**5.5**
	Total Credit Hours	**38**

ADVANCED AUTOMOTIVE TECHNOLOGY

Certificate

The Advanced Automotive Technology Certificate program was designed by Gateway Community College. This unique cooperative program provides an opportunity for students to attend all classes and labs at the North Haven Campus and work full time in a sponsoring dealership or garage. The courses in this program are transferable to the Associate in Applied Science degree in Automotive Technology.

ADVANCED AUTOMOTIVE TECHNOLOGY CERTIFICATE PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Apply knowledge of advanced electrical/electronic systems leading to diagnosis and repair of a vehicle's systems
- Diagnose, adjust, and repair advanced electrical fuel injection systems, including but not limited to computer controls, fuel exhaust, ignition, and emission systems
- Demonstrate workplace skills related to the occupation, including but not limited to maintaining a safe and healthy workplace environment, demonstrating workplace skills, ethics, and teamwork

Each student accepted into the program must purchase or possess the tools required for the program, have a valid driver's license, and wear an automotive uniform while attending classes. For more information, call Wayne Demske, at (203) 285-2334 or e-mail at (wdemske@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
AUT* 248 or AUT* 282	Advanced Electrical Systems Electronics Advanced Fuel Injection Systems	3.5
AUT* 280	Internship V (16 weeks)	6
	Total Credit Hours	**9.5**

AVIATION

AVIATION MAINTENANCE TECHNOLOGY

Associate in Science

To be eligible for an Associate in Science degree in the Aviation Maintenance Technology Program, a student must successfully complete a Federal Aviation Agency (FAA) approved Airframe and Powerplant Mechanics program that is offered at FAA approved schools and have an active license. Thirty credits will be granted to individuals who have an active FAA license. An additional thirty-two (32) credits of college instruction must be completed for the Associate in Science degree. To find an FAA school, please visit http://av-info.faa.gov/maintenance school. asp.

AVIATION MAINTENANCE TECHNOLOGY PROGRAM OUTCOMES

Upon successful completion of all program requirements, the graduate should be able to:

- Possess an active Federal Aviation Agency (FAA) Airframe and Powerplant Mechanics license
- Apply language arts and communications skills related to the occupation, including but not limited to reading, writing, and oral communication
- Perform mathematics related to the occupation, including but not limited to algebra, arithmetic, decimals, and graphs
- Use the scientific method and critical thinking to solve problems related to the occupation
- Demonstrate workplace skills related to the occupation, including but not limited to resume preparation, seeking employment, maintaining a safe healthy workplace environment, demonstrating workplace ethics, and teamwork
- Apply knowledge of theory and safety to accomplish certain tasks related to the occupation
- Identify and use the appropriate tools, testing procedures, and measurement equipment to accomplish certain tasks related to the occupation
- Use current reference and training materials from accepted industry publications and standards to accomplish certain tasks related to the occupation

Graduates of this program may obtain employment as mechanics at airports, technicians with aircraft and powerplant companies, or they may continue their education toward a Bachelor's degree in the industrial and manufacturing fields. For more information, call Paul Silberquit, at (203) 285-2368 or e-mail at (psilberquit@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
	Active FAA Airframe and Powerplant Mechanics License	30
CET* 116	Computer Applications for Technology	3
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
MAT* 137	Intermediate Algebra	3
MAT* 175	College Algebra and Trigonometry	3
PHY* 121	General Physics I	4
PHY*122	General Physics II	4
Elective	Humanities	3
Elective	Fine Arts	3
Elective	Social Science	3
	Total Classroom Credit Hours	**32**
	Total Credit Hours	**62**

BUSINESS

BUSINESS ADMINISTRATION

Associate in Science

The complexity of business demands a constant supply of trained managers and administrators. This career program prepares students for managerial and administrative responsibilities. This program includes both the basic concepts of business management and the fundamental tools of management that are common to both the private and public sectors of the economy. For more information, call the Business Department Chairperson, Richard Rees at (203) 285-2178 or e-mail at (rrees@gatewayct.edu).

BUSINESS ADMINISTRATION PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Demonstrate reasoning and analytic skills
- Display the traits and attitudes that promote ongoing success and a strong work ethic
- Work with others, including culturally and intellectually diverse people
- Identify the leadership and motivational traits and qualities necessary to accomplish organizational goals
- Understand the global, economic, ethical, and legal environments of contemporary business.

PROGRAM REQUIREMENTS

Freshman Year – Fall Semester

Course #	Title	Credits
BBG* 231	Business Law I	3
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
MAT* 137	Intermediate Algebra	3
Elective	Social Science	3
	Total Semester Credit Hours	**15**

Freshman Year – Spring Semester

Course #	Title	Credits
ACC* 113	Principles of Financial Accounting	3
BBG* 101	Introduction to Business	3
CSA* 135	Spreadsheet Applications	3
ENG* 102	Literature and Composition	3
Elective	Fine Arts	3
	Total Semester Credit Hours	**15**

Sophomore Year – Fall Semester

Course #	Title	Credits
ACC* 114 or ACC* 117	Principles of Financial Accounting II Principles of Managerial Accounting	3
BMK* 201	Principles of Marketing	3
BMG* 202	Principles of Management	3
ECN* 102	Microeconomics	3
Elective	Natural Science	3 - 4
	Total Semester Credit Hours	**15-16**

Sophomore Year – Spring Semester

Course #	Title	Credits
BBG* 200	Principles of Business Statistics	3
BBG* 232 or BBG* 240 or BMG* 210	Business Law II Business Ethics Organizational Behavior	3
BFN* 201	Principles of Finance	3
ECN* 101	Macroeconomics	3
Elective	Business	3
	Total Semester Credit Hours	**15**
	Total Credit Hours	**60-61**

BUSINESS ADMINISTRATION

Certificate

This certificate program upgrades students' business and management skills and/or allows them to obtain credits as prerequisites for higher education programs.

PROGRAM REQUIREMENTS

Course #	Title	Credits
ACC* 113	Principles of Financial Accounting	3
BBG* 101	Introduction to Business	3
BBG* 231	Business Law I	3
BMK* 201	Principles of Marketing	3
	Total Credit Hours	**12**

Course #	Title	Credits
ACC* 114 or ACC* 117	Principles of Financial Accounting II or Principles of Managerial Accounting	3
BMG* 202	Principles of Management	3
ECN* 102	Microeconomics	3
Elective	Business	3
	Total Credit Hours	**12**
	Total Certificate Credits	**24**

BUSINESS ADMINISTRATION: ACCOUNTING OPTION

Associate in Science

The complexity of society requires trained personnel to interpret and manage the fiscal aspects of business and industry. The curriculum of the Business Administration: Accounting Option is designed to be either a transfer program or a career program. Career-oriented students are prepared for entry-level positions in public and private accounting. Students may also consider transferring credit earned in this program toward a Bachelor's degree.

BUSINESS ADMINISTRATION ACCOUNTING OPTION PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Apply generally accepted accounting principles in the recording and reporting of financial information
- Describe accounting system procedures and techniques
- Analyze and use financial reports for decision-making
- Explain the use of financial information in controlling and evaluating performance
- Communicate effectively using the vocabulary of financial and managerial accounting and economics
- Explain how budgeting, activity-based costing, and strategic cost management foster the effective use of resources and help an organization accomplish its goals
- Use computerized spreadsheets and accounting software
- Apply basic knowledge from history, social sciences, behavioral sciences, arts, literature, and natural sciences to solve unfamiliar problems
- Demonstrate reasoning and analytic skills
- Work with others, including culturally and intellectually diverse people
- Demonstrate the ability to acquire, organize, and present information effectively, regardless of medium – written, spoken, or electronic
- Show how organizational dynamics and sociopolitical and economic environments influence the creation of solutions
- Display the traits and attitudes that promote ongoing success and a strong work ethic

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
ACC* 125	Accounting Computer Application I	3
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
ENG* 102	Literature and Composition	3
MAT* 137	Intermediate Algebra ++	3
Elective	Fine Arts	3
Elective	Social Science	3
Elective	Natural Science	3-4
	Total Credit Hours	**24-25**

++ Or another degree credit mathematics course recommended by the academic advisor

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
ACC* 113	Principles of Financial Accounting I	3
BBG* 231	Business Law I	3
ENG* 101	Composition	3
MAT* 137	Intermediate Algebra	3
Elective	Social Science	3
	Total Semester Credit Hours	**15**

Freshman Year - Spring Semester

Course #	Title	Credits
ACC* 114	Principles of Financial Accounting II	3
BBG* 232 or BBG* 240 or BMG* 210	Business Law II or Business Ethics or Organizational Behavior	3
ENG* 102	Literature & Composition	3
CSA* 135	Spreadsheets	3
Elective	Natural Science	3-4
	Total Semester Credit Hours	**15-16**

Sophomore Year - Fall Semester

Course #	Title	Credits
ACC* 117	Principles of Managerial Accounting	3
ACC* 125	Accounting Computer Applications	3
BBG* 200	Principles of Business Statistics	3
ECN* 102	Microeconomics	3
Elective	Fine Arts	3
	Total Semester Credit Hours	**15**

Sophomore Year - Spring Semester

Course #	Title	Credits
ACC* 241	Federal Taxes I	3
BFN* 201	Principles of Finance	3
COM* 171	Fundamentals of Human Communication	3
ECN* 101	Macroeconomics	3
Elective	Business	3
	Total Semester Credit Hours	**15**

+ All Accounting, Business, Computer, and BOT courses qualify for Business electives

ACCOUNTANT'S ASSISTANT

Certificate

This program is for the mature individual who has previous office experience and is seeking additional skills. Upon completion of this program, the Accountant's Assistant can assume "full charge" of a set of books for accounts of small or medium businesses and nonprofit organizations. The Accountant's Assistant performs duties under the supervision and direction of internal and/or public accountants. For more information, call the Business Department Chairperson, Richard Rees, at (203) 285-2178 or e-mail at (rrees@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
ACC* 113	Principles of Financial Accounting	3
ACC* 125	Accounting Computer Application I	3
ACC* 117	Principles of Managerial Accounting	3
ACC* 241	Federal Taxes I	3
CSA* 135	Spreadsheet Applications	3
	Total Semester Credit Hours	**15**

BOOKKEEPING

Certificate

This 30 hour certificate program trains students in a wide variety of office skills and prepares them for immediate entry into the job market. For more information, call the Business Department Chairperson, Richard Rees, at (203) 285-2178 or e-mail at (rrees@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
ACC* 125	Accounting Computer Application I	3
BBG* 101	Introduction to Business	3
BBG* 210	Business Communication	3
BOT* 112	Keyboarding for Information Processing II +	3
BOT* 251	Administrative Procedures	3
BOT* 165 or ACC* 113	Business Office Accounting / Principles of Financial Accounting	3
BOT* 137	Word Processing Applications	3
CSA* 135	Spreadsheet Applications	3
CSA* 140	Database Applications	3
ENG* 101	Composition	3
	Total Credit Hours	**30**

+ For students who meet the Keyboarding for Information Processing I (BOT* 111) requirement.

BUSINESS ADMINISTRATION: MANAGEMENT OPTION

Associate in Science

The Business Administration Management Option helps meet the growing need for qualified supervisory and entry-level managers in the Greater New Haven area.

BUSINESS ADMINISTRATION MANAGEMENT OPTION PROGRAM OUTCOMES

Upon successful completion of all program requirements, the graduate should be able to:

- Review the historical development of management theories and relate them to current managerial thought
- Use the planning process to accomplish both personal and professional goals
- Explain the importance of and the procedure for organizing the workplace and defining tasks, responsibilities, and relationships
- Describe the staffing processes of recruitment, placement, training, and development for maintaining an effective work force
- Identify the leadership and motivational traits and qualities necessary to accomplish organizational goals
- Analyze the decision-making and problem-solving methods that managers use
- Demonstrate reasoning and analytic skills
- Work with others, including culturally and intellectually diverse people
- Display the traits and attitudes that promote ongoing success and a strong work ethic
- Understand the global, economic, ethical, and legal environments of contemporary business.

PROGRAM REQUIREMENTS

Freshman Year – Fall Semester

Course #	Title	Credits
BBG* 231	Business Law I	3
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
MAT* 137	Intermediate Algebra	3
Elective	Social Science	3
	Total Semester Credit Hours	**15-16**

Freshman Year – Spring Semester

Course #	Title	Credits
ACC* 113	Principles of Financial Accounting	3
BMG* 202	Principles of Management	3
CSA* 135	Spreadsheet Applications	3
ENG* 102	Literature and Composition	3
Elective	Natural Science	3-4
	Total Semester Credit Hours	**15-16**

Sophomore Year – Fall Semester

Course #	Title	Credits
ACC* 117	Principles of Managerial Accounting	3
BBG* 200	Principles of Business Statistics	3
BMG* 220	Human Resources Management	3
ECN* 101	Macroeconomics	3
BMG* 126 or BMG* 210	Principles of Insurance or Organizational Behavior	3
	Total Semester Credit Hours	**15**

Sophomore Year – Spring Semester

Course #	Title	Credits
BBG* 210	Business Communication	3
BFN* 201	Principles of Finance	3
ECN* 102	Microeconomics	3
Elective	Business	3
Elective	Fine Arts	3
	Total Semester Credit Hours	**15**
Total Credit Hours		**60-61**

MANAGEMENT

Certificate

The Management Certificate allows the student to focus on the specific skills needed for success in today's workplace. It is designed for those who do not have the time to pursue a degree program but want to improve their managerial skills. Those students interested in continuing their studies will be able to use all credits earned in this program toward a degree in the Business Administration Management Option.

MANAGEMENT CERTIFICATE PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Use effective planning processes to accomplish both personal and professional goals
- Use appropriate management skills for workplace decision-making
- Describe the various ways firms are organized and the roles of personnel and organizational systems
- Discuss tools and techniques used in the management control process
- Discuss the role of computers and technology in society and state ways in which businesses use information systems in decision-making

PROGRAM REQUIREMENTS

Freshman Year – Fall Semester

Course #	Title	Credits
BMG* 202	Principles of Management	
COM* 171	Fundamentals of Human Communication	3
CSA* 135	Spreadsheet Applications	3
ENG* 101	Composition	3
	Total Semester Credit Hours	**12**

Freshman Year – Spring Semester

Course #	Title	Credits
BBG* 210	Business Communication	3
BMG* 126 or BMG* 210	Principles of Insurance or Organizational Behavior	3
BMG* 220	Human Resources Management	3
Elective	Business	3
	Total Semester Credit Hours	**12**
	Total Credit Hours	**24**

All BOT courses qualify as Business and/or Computer electives.

BUSINESS ADMINISTRATION: MARKETING OPTION

Associate in Science

The Business Administration Marketing Option is designed to fulfill the needs of two groups of individuals: students who intend to explore career opportunities in marketing-related fields and students who are presently in business and desire to supplement their practical experience with an effective marketing education. Students who complete this option may seek immediate employment or may transfer to a four-year institution.

BUSINESS ADMINISTRATION MARKETING OPTION PROGRAM OUTCOMES

Upon successful completion of all program requirements, the graduate should be able to:

- Demonstrate an understanding of basic theory and practice of business administration and marketing.
- Demonstrate the ability to read, understand, and prepare standard types of business communications.
- Demonstrate analytical, problem-solving and decision-making skills applicable to business administration and marketing.
- Demonstrate proficiency in the use and interpretation of data and information as applied to the various applications in business administration and marketing.
- Demonstrate the ability to develop a marketing strategy, make ad buys, and monitor trends that affect their products.

BUSINESS ADMINISTRATION MARKETING OPTION PROGRAM OUTCOMES

Freshman Year – Fall Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
MAT* 137	Intermediate Algebra	3
Elective	Natural Science	3-4
Elective	Social Science	3
	Total Semester Credit Hours	**15-16**

Freshman Year – Spring Semester

Course #	Title	Credits
ACC* 113	Principles of Financial Accounting	3
BMK* 201	Principles of Marketing	3
CSA* 135	Spreadsheet Applications	3
ENG* 102	Literature and Composition	3
Elective	Business Restricted +	3
	Total Semester Credit Hours	**15**

Sophomore Year – Fall Semester

Course #	Title	Credits
BBG* 200	Principles of Business Statistics	3
BBG* 231	Business Law I	3
BMK* 241	Principles of Advertising	3
ECN* 101 or ECN* 102	Macroeconomics or Microeconomics	3
Elective	Business Restricted +	3
	Total Semester Credit Hours	**15**

Sophomore Year – Spring Semester

Course #	Title	Credits
BBG* 294	Business Internship	3
BFN* 201	Principles of Finance	3
BMK* 285	Current Marketing Topics	3
Elective	Business	3
Elective	Fine Arts	3
	Total Semester Credit Hours	**15**
	Total Credit Hours	**60-61**

BUSINESS OFFICE TECHNOLOGY

BUSINESS OFFICE TECHNOLOGY PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Demonstrate technical proficiency in office applications software including: word processing, operating system, electronic spreadsheet, database management, integrated office applications and presentation graphics.
- Exhibit verbal, non-verbal and written communication skills.
- Key and format business documents and demonstrate proofreading skills.
- Demonstrate effective use of soft skills including: professionalism, adaptability to change, initiative, confidentiality, positive attitude and human-relations and creativity.
- Practice ethical behavior and incorporate the principles of honesty and integrity.
- Apply critical-thinking strategies and effective decision-making techniques to solve problems.
- Demonstrate self-management skills, including time management and organization.
- Contribute as a productive team member in a culturally and intellectually diverse global environment.

BUSINESS OFFICE TECHNOLOGY

Associate in Science

This program provides high quality instruction using state-of-the-art computer technology and current software programs to prepare competent, skilled, and professional office workers who are able to meet the demands of business. Visit the Business Office Technology website at **www.gwcc.commnet.edu/bot/bothome.html**.

Administrative assistants play vital roles in American business, government, and industry. To prepare for these roles, students may choose from any of the four associate degrees or five certificate options described below. There is always a great demand for administrative assistants. Because college-trained administrative assistants possess a high level of skills, maturity, and a sophisticated attitude, they enter an organization with three advantages: 1) they command a better starting salary, 2) they may work for higher level executives, and 3) they will receive promotions more rapidly than those without a college degree.

Students enrolling in this program who have previous keyboarding instruction should contact a member of the Business Office Technology faculty at (203) 285-2177. Students with no previous keyboarding instruction are advised to take Keyboarding for Information Processing I (BOT* 111) in the summer session in order to follow the fall-spring sequence of courses. Students interested in receiving credit for life experience should contact one of the faculty members in the Business Office Technology Department. For more information, call the Program Coordinator, Lucille Flores at (203) 285-2177 or e-mail at (lflores@gatewayct.edu).

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
ENG* 101	Composition	3
COM* 171	Fundamentals of Human Communication	3
MAT* 109 +	Quantitative Literacy	3
PSY* 111 or PSY* 248	General Psychology I Industrial and Organizational Psychology	3
CSA* 135 #	Spreadsheet Applications	3
Elective	Humanities	3
Elective	Natural Science	3-4
	Total Semester Credit Hours	**21-22**
	Total Credit Hours	**60-61**

+ Or higher level mathematics course recommended by the academic advisor

Prerequisite: MAT* 075 or permission of instructor

BOT: ADMINISTRATIVE ASSISTANT OPTION

Associate in Science

The role of the administrative assistant requires technical proficiency in the office applications including: word processing, electronic spreadsheet, database management and presentation graphics. Being successful in today's global business environment also requires a variety of soft skills and a general education foundation. For more information, call the Program Coordinator, Lucille Flores at (203) 285-2177 or e-mail at (lflores@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
	General Education Requirements (see page 102)	21-22
BBG* 210	Business Communication	3
BBG* 231	Business Law I	3
BMG* 202	Principles of Management	3
BOT* 111+	Keyboarding for Information Processing I	3
BOT* 112 ^	Keyboarding for Information Processing II	3
BOT* 137 ^	Word Processing Applications	3
BOT* 165	Small Business Office Accounting	3
BOT* 215	Word Processing Applications II	3
CSA* 140	Database Applications	3
BOT* 219	Integrated Office (S)	3
BOT* 220 %	Computerized Communication	3
BOT* 251	Administrative Procedures (F)	3
BOT* 295	Administrative Practicum	3
Total Credit Hours		**60-61**

(F) Offered Fall Semester
(S) Offered Spring Semester
^ Prerequisite: BOT* 111; may not be taken concurrently with BOT* 111.
% Prerequisite: Knowledge of Microsoft Windows
+ Students who satisfy the Keyboarding for Information Processing I (BOT* 111) requirement may substitute another BOT or Business course after consultation with BOT faculty.

BOT: ADMINISTRATIVE ASSISTANT

Certificate

This is a skills-oriented sequence for students who do not wish to pursue an associate degree option. However, credits earned as part of this certificate program may be applied to the associate degree options in Business Office Technology. This program is tailored to meet individual needs. Students with excellent keyboarding skills may substitute electives for keyboarding courses. Emphasis is placed on the basic administrative and soft skills necessary to be successful in today's global business environment. For more information, call the Program Coordinator, Lucille Flores at (203) 285-2177 or e-mail at (lflores@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
BBG* 210	Business Communication	3
BMG* 202	Principles of Management	3
BOT* 111 + or BOT* 219	Keyboarding for Information Processing I Integrated Office (S)	3
BOT* 112 ^	Keyboarding for Information Processing II	3
BOT* 165	Small Business Office Accounting	3
BOT* 137 ^	Word Processing Applications	3
BOT* 215	Word Processing Applications II	3
BOT* 251	Administrative Procedures (F)	3
BOT* 295	Administrative Practicum	3
CSA* 135 #	Spreadsheet Applications	3
Total Credit Hours		**30**

(F) Offered Fall Semester
(S) Offered Spring Semester
^ Prerequisite: BOT* 111; may not be taken concurrently with BOT* 111.

Prerequisite: MAT* 075 or permission of insturctor
+ Students who satisfy the Keyboarding for Information Processing I (BOT* 111) requirement may substitute another BOT or Business course after consultation with BOT faculty.

BOT: OFFICE APPLICATIONS SKILLS UPDATE

Certificate

Designed for practicing office professionals as well as those returning to the workforce. It provides students with the opportunity to update their computer skills, increase their employability and advance in their careers. Students utilize state of the art software applications in word processing, spreadsheet, database management and presentation software. For more information, call the Program Coordinator, Lucille Flores at (203) 285-2177 or e-mail at (lflores@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
BOT* 137 ^	Word Processing Applications	3
CSA* 135 #	Spreadsheet Applications	3
CSA* 140	Database Applications	3
BOT* 220 %	Computerized Communication	3
Total Credit Hours		**12**

^ Prerequisite: BOT* 111; may not be taken concurrently with BOT* 111.
% Prerequisite: Knowledge of Microsoft Windows
# Prerequisite: MAT* 075 or permission of instructor

BOT: CUSTOMER SERVICE TECHNOLOGY

Certificate

This program prepares students for entry-level customer service representative positions. It provides training in technological and soft skills required for excellence in customer service satisfaction. For more information, call the Program Coordinator, Lucille Flores at (203) 285-2177 or e-mail at (lflores@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
BBG* 210	Business Communication	3
BMK* 201	Principles of Marketing	3
BMK* 220	Sales	3
BMK* 285	Current Marketing Topics/Quality Customer Service	3
BOT* 111 +	Keyboarding for Information Processing I	3
BOT* 137 ^	Word Processing Applications	3
CSA* 135 #	Spreadsheet Applications	3
BOT* 251	Administrative Procedures	3
COM* 171	Fundamentals of Human Communication	3
COM* 172	Interpersonal Communication	3
Total Credit Hours		**30**

+ Students who satisfy the Keyboarding for Information Processing I (BOT* 111) requirement may substitute BOT* 112, BOT* 215, or BOT* 220.
^ Prerequisite: BOT* 111; may not be taken concurrently with BOT* 111.
# Prerequisite: MAT* 075 or permission of instructor

BOT: LEGAL ADMINISTRATIVE ASSISTANT OPTION

Associate in Science

The duties of a legal administrative assistant vary considerably depending on the specialty of the law office. However, all legal administrative assistants should be able to: prepare time sheets indicating the hours an attorney spends on behalf of various clients; prepare clients' fee and disbursement statements; and prepare appropriate documents for real estate, probate, corporate, tax, civil or criminal litigation, and domestic matters. Knowledge of legal terminology is essential for anyone seeking a career as a legal administrative assistant. For more information, call the Program Coordinator, Lucille Flores at (203) 285-2177 or e-mail at (lflores@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
	General Education Requirements (see page 102)	21-22
BBG* 210	Business Communication	3
BBG* 231	Business Law I	3
BMG* 202	Principles of Management	3
BOT* 111 +	Keyboarding for Information Processing I	3
BOT* 112	Keyboarding for Information Processing	3
BOT* 137 ^	Word Processing Applications	3
BOT* 165	Small Business Office Accounting	3
BOT* 215	Word Processing Applications II	3
CSA* 140	Database Applications	3
BOT* 219	Integrated Office (S)	3
BOT* 271 ++	Legal Document Production (F) (odd years)	3
BOT* 272 ++ or BOT* 251	Legal Administrative Procedures (F) (odd years) Administrative Procedures (F)	3
BOT* 295	Administrative Practicum	3
Total Credit Hours		**60-61**

(F) Offered Fall Semester
(S) Offered Spring Semester
^ Prerequisite: BOT* 111; may not be taken concurrently with BOT* 111.
+ Students who satisfy the Keyboarding for Information Processing I (BOT* 111) requirement may substitute Computerized Communication (BOT* 220).
++ BOT* 272 and BOT* 271 are offered in odd years only.

BOT: MEDICAL ADMINISTRATIVE ASSISTANT OPTION

Associate in Science

The duties of a medical administrative assistant will vary among medical office environments such as hospitals, outpatient facilities, urgent or walk-in medical clinics and physician practices. In addition to regular office duties, a medical administrative assistant performs specialized tasks. These tasks include: appointment scheduling, medical record management (paper or electronic health information), billing and accounts payable services/procedures, transcribing medical procedures/treatments, medical coding and completing/processing of insurance claims. Students utilize state of the art medical office software/databases to maintain and to archive accurate patient health and financial documentation in accordance with state and federal regulations. For more information, call the Program Coordinator, Lucille Flores at (203) 285-2177 or e-mail at (lflores@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
	General Education Requirements (see page 53)	21-22
BBG* 210	Business Communication	3
BOT* 111 +	Keyboarding for Information Processing I	3
BOT* 112 ^	Keyboarding for Information Processing II	3
BOT* 137 ^	Word Processing Applications	3
BOT* 165	Small Business Office Accounting	3
BOT* 181	Medical Coding I	3
BOT* 182	Medical Coding II	3
CSA* 140	Database Applications	3
BOT* 219	Integrated Office (S)	3
BOT* 220 %	Computerized Communication	3
BOT* 280	Medical Transcription and Document Production	3
BOT* 282	Medical Administrative Procedures	3
BOT* 295	Administrative Practicum	3
Total Credit Hours		**60-61**

(S) Offered Spring Semester
^ Prerequisite: BOT* 111; may not be taken concurrently with BOT* 111.
% Prerequisite: Knowledge of Microsoft Windows

Principles of the Human Body (BIO* 110) or Human Biology with a lab (BIO* 115) is strongly recommended.
+ Students who satisfy the Keyboarding for Information Processing I (BOT* 111) requirement may substitute another BOT or Business course.

BOT: MEDICAL ADMINISTRATIVE ASSISTANT

Certificate

The Medical Administrative Assistant Certificate prepares students to work in a medical office or hospital. In addition to regular office duties, a medical administrative assistant performs specialized tasks. Emphasis is placed on medical coding and medical transcription skills. Training is provided using state of the art medical office software. For more information, call the Program Coordinator, Lucille Flores at (203) 285-2177 or e-mail at (lflores@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
BIO* 110 or BIO* 115	Principles of the Human Body Human Biology	3-4
ENG* 101	Composition	3
BOT* 111 +	Keyboarding for Information Processing I	3
BOT* 137 ^	Word Processing Applications	3
BOT* 181	Medical Coding I	3
BOT* 182	Medical Coding II	3
CSA* 135 #	Spreadsheet Applications	3
BOT* 280	Medical Transcription and Document Production	3
BOT* 282	Medical Administrative Procedures	3
BOT* 295	Administrative Practicum	3
Total Credit Hours		**30-31**

(S) Offered spring semester
^ Prerequisite: BOT* 111; may not be taken concurrently with BOT* 111.
# Prerequisite: MAT* 075 or permission of instructor
+ Students who satisfy the Keyboarding for Information Processing I (BOT* 111) requirement may substitute Business Communication (BBG* 210), Business Office Accounting (BOT* 165), Computerized Communication (BOT* 220), or Database Applications (CSA* 140).

BOT: INFORMATION PROCESSING TECHNICIAN

Certificate

This program is designed for managers who need to keep pace with changes in the workplace. Students utilize state of the art software applications in word processing, database management and spreadsheet applications. For more information, call the Program Coordinator, Lucille Flores at (203) 285-2177 or e-mail at (lflores@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
BOT* 111 +	Keyboarding for Information Processing I	3
BOT* 137 ^	Word Processing Applications	3
BOT* 215	Word Processing Applications II	3
BOT* 217	Desktop Publishing	3
BOT* 220 %	Computerized Communication	3
CSA* 135 #	Spreadsheet Applications	3
CSA* 140	Database Applications	3
Total Credit Hours		**21**

+ Students who satisfy the Keyboarding for Information Processing I (BOT* 111) requirement may substitute another BOT* or Business course after consultation with BOT faculty.

^ Prerequisite: BOT* 111; may not be taken concurrently with BOT* 111.
% Prerequisite: Knowledge of Microsoft Windows

CONNECTICUT COLLEGE OF TECHNOLOGY

Connecticut's College of Technology is an innovative course of study for men and women considering a career in the challenging and rewarding fields of engineering and technology. It is an integrated curriculum at Connecticut's public and private colleges and universities, allowing individuals to begin their studies at Gateway Community College and progress directly into a bachelor's degree program at a four-year university. The curriculum consists of two distinct pathways: engineering and technology.

CONNECTICUT COLLEGE OF TECHNOLOGY STUDIES PATHWAYS PROGRAM OUTCOMES

Upon successful completion of all program requirements, the graduate will:

- Demonstrate competence in written and oral communication
- Demonstrate scientific and qualitative reasoning skills
- Be able to apply appropriate mathematical and scientific principles to problem solving
- Have completed the two-year course of study as outlined in the Gateway Community College catalog
- Be eligible for transfer to the UCONN School of Engineering or CCSU School of Technology, depending upon the chosen pathway
- Follow a curriculum containing at least the minimum general education requirements with a core of college of technology requirements

The **Engineering Science A.S. degree** leads to transfer to one of the following institutions: School of Engineering at the University of Connecticut, School of Engineering at the University of Hartford, School of Engineering at the University of New Haven, School of Engineering at Fairfield University.

The **Technology Studies A.S. degree** leads to transfer to the School of Technology at Central Connecticut State University or Charter Oak State College, Connecticut's external degree program. The Technology Pathway to the School of Technology at Central Connecticut State University enables transfer into one of three programs: Engineering Technology, Industrial Technology, or Technology Management.

For information on any of the Technology Studies Pathway programs, contact Susan Spencer at (203) 285-2452 or e-mail at (sspencer@gatewayct.edu).

Associate in Science

Leading to the School of Engineering at the University of Connecticut, University of New Haven, University of Hartford, Fairfield University or Central Connecticut State University.

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
CAD* 108	CAD Introduction	3
CHE* 121	General Chemistry I	4
EGR* 111	Introduction to Engineering	3
ENG* 101	Composition	3
MAT* 254	Calculus I	4
	Total Semester Credit Hours	**17**

Freshman Year - Spring Semester

Course #	Title	Credits
CET* 124	Structured Programming	4
CHE* 122 +	General Chemistry II	4
PHY* 221	Calculus-Based Physics I	4
MAT* 256	Calculus II	4
	Total Semester Credit Hours	**16**

Sophomore Year - Fall Semester

Course #	Title	Credits
EGR* 211	Engineering Statics	3
MAT* 268	Calculus III: Multivariable	4
PHL* 111	Ethics	3
PHY* 222	Calculus-Based Physics II	4
HIS* 101	Western Civilization	3
	Total Semester Credit Hours	**17**

Sophomore Year - Spring Semester

Course #	Title	Credits
EGR* 212	Engineering Dynamics	3
MAT* 285	Differential Equations	3
ENG* 102	Literature and Composition	3
Elective	Fine Art	3
Electives ++	Restricted	6
	Total Semester Credit Hours	**18**
	Total Credit Hours	**68**

+ Or for students transferring to UNH in Mechanical or Electrical Engineering, any psychology, political science, or sociology course.

++ Restricted electives should be chosen according to the proposed major at the designated school of Engineering.

For more information, contact Susan Spencer, Program Coordinator at (203) 285-2452 or e-mail sspencer@gatewayct.edu.

TECHNOLOGICAL STUDIES

Associate in Science

Leading to the School of Technology at Central Connecticut State University and Charter Oak State College.

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
CSC* 101	Introduction to Computers	3
ENG* 101	Composition	3
MAT* 175	College Algebra and Trigonometry	3
PHY* 121	General Physics I	4
PSY* 111	General Psychology I	3
	Total Semester Credit Hours	**16**

Freshman Year - Spring Semester

Course #	Title	Credits
CAD* 108	CAD Introduction	3
ECN* 101	Macroeconomics	3
PHY*122	General Physics II	4
MAT* 187	Precalculus Mathematics	3
MEC* 104	Mechanics - Statics	3
	Total Semester Credit Hours	**16**

Sophomore Year - Fall Semester

Course #	Title	Credits
CHE* 121	General Chemistry I	4
COM* 171	Fundamentals of Human Communication	3
MAT* 167	Statistics with Technology	3
MEC* 265	Materials Science	4
Elective	Fine Art	3
	Total Semester Credit Hours	**17**

Sophomore Year - Spring Semester

Course #	Title	Credits
CAD* 200	3D CAD Modeling	4
HIS* 101	Western Civilization	3
Elective	Social Science	3
Electives ++	Technical	6
	Total Semester Credit Hours	**16**
	Total Credit Hours	**65**

+ Technical electieves should be chosen according to the proposed major at the designated school. For more information, contact Susan Spencer, Program Coordinator at (203) 285-2452 or e-mail sspencer@gatewayct.edu.

COMPUTER SCIENCE

COMPUTER SCIENCE PROGRAM OUTCOMES

Upon the successful completion of all program requirements, the graduate should be able to:

- Identify the principal components of a computer system and describe their typical characteristics
- Develop, interpret, and translate an algorithm into a target language using design tools such as flowcharts and/or pseudocode
- Solve problems and develop algorithms using control structure abstractions of sequence, selection, and repetition, following a disciplined approach
- Describe the social responsibilities of the computing professional and the impact of computing on society
- Discuss the organization of the Internet and demonstrate the ability to use various Internet tools
- Describe LAN topologies, protocols, transmission media, and access methods
- Analyze, design, code, test, and debug sophisticated and complex programs in two high-level languages using appropriate software design methodologies
- Design and query a relational database using Structured Query Language (SQL)

COMPUTER SCIENCE

Associate in Science

Students enrolled in the Computer Science Technology program receive a broad programming background, including training in C++, Java, Visual Basic, Web Design using XHTML, microcomputer software packages and networking. Using industry-oriented applications, students have the opportunity to design, write, and test programs in a variety of programming languages and use various operating systems languages. Furthermore, this course introduces different types of networks and networking that allow users to share hardware, software, and information. The Computer Science Technology program allows students to design much of their technical curriculum based on their unique goals. Students may take a broad variety of courses or prepare for such specific technical careers as application programmers, programmer analysts, systems analysts, systems programmers, net administrators, or computer network specialists. For more information, call the Program Coordinator, Allyson Kinney at (203) 285-2176 or e-mail at (akinney@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
CSC* 101	Introduction to Computers	3
ENG* 101	Composition	3
MAT* 115 or MAT* 137	Mathematics for Science and Technology Intermediate Algebra	3
Elective +	Restricted	3-4
	Total Semester Credit Hours	**12-13**

Freshman Year - Spring Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
CST* 180 or CST* 133	Networking I Networking Fundamentals I	4
CSC* 205	Visual Basic I	3
Elective	Humanities	3
Elective +	Restricted	3-4
	Total Semester Credit Hours	**16-17**

Sophomore Year - Fall Semester

Course #	Title	Credits
CSC* 150	Database Applications & Design – Using SQL	4
CSC* 208	Advanced Visual Basic	4
Elective	Fine Arts	3
Elective	Social Science	3
Elective +	Restricted	3-4
	Total Semester Credit Hours	**17-18**

Sophomore Year - Spring Semester

Course #	Title	Credits
CSA* 295 or CSA* 296	Computer Science Applications Practicum CWA – Computer Applications	3
CSC* 250	Systems Analysis and Design	3
Elective	Natural Science	4
Electives +	Restricted	6-8
	Total Semester Credit Hours	**16-18**
	Total Credit Hours	**61-66**

+ Restricted Electives— CSC* 110, CSC* 210, CSC* 212, CSC* 213, CSC* 223, CST* 127, CST* 133, CST* 149, CST* 152, CST* 180, CST* 181, CST* 182, CST* 183, CST* 188, CST* 234, CST* 273.

COMPUTER SCIENCE

Certificate

The Computer Science Certificate program provides students with requisite skills for entry-level positions. The program is especially suited to those who wish to gain more marketable or updated skills. For more information, call the Program Coordinator, Allyson Kinney at (203) 285-2176 or e-mail at (akinney@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
CSC* 101	Introduction to Computers	3
CSC* 205	Introduction to Visual BASIC	4
CST* 152	Introduction to Web Page and Design	4
	Total Semester Credit Hours	**11**

Freshman Year - Spring Semester

Course #	Title	Credits
CST* 133 or CST* 180	Networking Fundamentals I Networking I	4
CSC* 208	Advanced Visual BASIC	4
CSC* 150	Database Applications & Design Using SQL	4
Elective	Restricted +	3-4
	Total Semester Credit Hours	**15-16**
	Total Credit Hours	**26 - 27**

COMPUTER SCIENCE: NETWORKING OPTION

Associate in Science

The Computer Science: Networking Option allows students to focus on the specific knowledge, skills, and abilities identified and recommended by the computer industry. The program will prepare students for the networking field, specifically focusing on certifications as Cisco Certified Network Associate (CCNA), Network+, Novell Certified Network Administrator, or Microsoft Certified Professional.

COMPUTER SCIENCE NETWORKING OPTION PROGRAM OUTCOMES

Upon the successful completion of all program requirements, graduates should be able to:

- Install, manage, and troubleshoot Client software
- Install, manage, and troubleshoot Server software
- Optimize and maintain Windows 2000 Servers and Netware Servers
- Set up and manage user accounts
- Install and configure directory services
- Plan and install security
- Back up and restore data
- Install, configure, and maintain network printers
- Install and access remote connectivity
- Describe physical and logical topologies
- Describe all terminology used in networked environments
- Identify and describe the functions of each of the seven layers of the OSI reference model
- Describe the different classes of IP addressing and subnetting
- Identify the functions of the TCP/IP network layer protocols
- Examine router elements (RAM, ROM, CDP, show)
- Configure IP addresses
- Log into a router in both user and privileged modes
- Enable the Novell IPX protocol and configure interfaces
- Describe LAN segmentation using bridges, routers, and switches
- Describe the benefits of network segmentation with bridges, routers, and switches
- Describe the features and benefits of Fast Ethernet
- Differentiate between the following WAN services: LAPB, frame Relay, ISDN/LAPD, HDLC, PPP, and DDR
- List commands to configure Frame Relay LMIs, maps, and subinterfaces
- Identify ISDN protocols, function groups, reference points, and channels

PROGRAM REQUIREMENTS

Freshman Year – Fall Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
MAT* 115 or MAT* 137	Mathematics for Science and Technology Intermediate Algebra	3
CSC* 101	Introduction to Computers	3
Elective +	Restricted	3-4
	Total Semester Credit Hours	**12-13**

Freshman Year – Spring Semester

Course #	Title	Credits
CST* 180 or CST* 234	Networking I Network+	3-4
CSC* 205	Visual Basic I	4
ENG* 101	Composition	3
Elective	Humanities	3
Elective +	Restricted	3-4
	Total Semester Credit Hours	**16-18**

Sophomore Year – Fall Semester

Course #	Title	Credits
CSC* 150	Database Applications & Design Using SQL	4
CSC* 208	Advanced Visual Basic	4
Elective	Social Science	3
Elective	Fine Arts	3
Elective +	Restricted	3-4
	Total Semester Credit Hours	**17-18**

Sophomore Year – Spring Semester

Course #	Title	Credits
CSA* 295 or CSA* 296	Computer Science Applications Practicum CWE - Computer Applications	3
CSC* 250	Systems Analysis & Design	3
Elective	Natural Science	4
Electives +	Restricted	6-7
	Total Semester Credit Hours	**16-17**
	Total Credit Hours	**61-66**

+ Restricted Electives - CSC* 110, CST* 127, 133, 149, 152, 180, 181, 182, 183, 188, 234, 273

COMPUTER SCIENCE

Certificate - Networking

The objective of the Computer Science Networking Certificate is to help meet the growing need for qualified networking specialists in the Greater New Haven area. This Certificate will allow students to focus on the specific knowledge, skills and abilities that have been identified and recommended by the computer industry. Upon successful completion, the graduating student will leave Gateway Community College with the ability and knowledge to pass three industry -recognized networking examinations: Certified Cisco Network Engineer; Network+; and Novell Certified Network Administrator. For more information, please call the Program Coordinator, Allyson Kinney at (203) 285-2176 or e-mail at (akinney@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
CSC* 101	Introduction to Computers	3
CST* 234	Network +	3
CST* 133	Networking Fundamentals I	4
CST* 180	Networking I	4
CST* 181	Networking II	4
CST* 182	Networking III	4
CST* 183	Networking IV	4
	Total Credit Hours	**26**

DRUG AND ALCOHOL RECOVERY COUNSELOR

DRUG AND ALCOHOL RECOVERY COUNSELOR MISSION STATEMENT

To prepare students to enter the field of alcohol and drug recovery counseling. The program provides students with a strong general education and a solid foundation in counseling theories and techniques, processes, and content. Adhering to the code of ethics and gaining a multicultural perspective and critical thinking skills, students learn how to provide care and treatment to those suffering from substance use disorders.

DRUG AND ALCOHOL RECOVERY COUNSELOR

Associate in Science

The Drug and Alcohol Recovery Counselor (DARC) program educates and trains individuals who seek State of Connecticut certification, employment, job advancement, and increased effectiveness in the field of addictions counseling.

The DARC curriculum provides a balanced program of general education and addiction-specific courses. The combination of courses will challenge students to develop into critical thinkers capable of approaching problems from a variety of viewpoints. The addiction-specific courses are designed to give students a sound foundation in the theories and the science of addiction studies with a disciplined background in: the biopsychosocial disease process of addiction, environmental and familial risk factors, evidence-based treatment models, public health issues, Recovery Model, counselor code of ethics, and more. Throughout the DARC program, students are offered a unique combination of traditional classroom work and experiential learning and practice. Students have the opportunity to apply their learning during a two semester (DAR* 251 and DAR* 252 consecutive) internship*.

Students who complete the DARC courses will have met all current Connecticut Certification Board educational training requirements in preparation for becoming a Certified Addiction Counselor and for State of Connecticut credentialing as a drug and alcohol counselor. In addition to the DARC course work, the state of Connecticut requires students to accrue work hours in the field of addiction counseling in order to be eligible to sit for the certification exam (administered by the Connecticut Certification Board).

Acceptance into the Internship (DAR* 251 and 252) portion of the program is selective and requires a formal application, interview and screening process that is separate from general admission to the College. Completion of DAR* 101, DAR* 111, DAR* 158, and DAR* 112 is required before applying to the Internship. The program courses, DAR* 101, 111, 112, 114, 117, 119, 158, 212, and 220 are available to any student who wishes to enroll; however, students are urged to seek guidance from the program coordinator.

*During the Internship year, students are required to carry malpractice liability insurance (the average yearly cost is $15). Students will be billed separately for this coverage and will be asked to pay the premium at the time of registration.

For more information, contact the Program Coordinator, Cher Shannon, at (203) 285-2321 or e-mail at (cshannon@ gatewayct.edu).

DRUG AND ALCOHOL RECOVERY COUNSELOR PROGRAM OUTCOMES

Upon completion of all program requirements, graduates should be able to:

- Perform in a cross-cultural setting, skills of a recovery counselor, as defined by the 8 Performance Domains of the International Certification Reciprocity Consortium.
- Practice and apply the code of ethics
- Successfully complete the certification process demonstrating competency in the theoretical sciences of the recovery field
- Apply principles of literacy and information technology to enhance the functions of recovery counseling.

PROGRAM REQUIREMENTS

Freshman Year – Fall Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
DAR* 101	Public Health Issues: Abuse & Addiction	3
DAR* 111	Addiction Counseling I	3
ENG* 101	Composition	3
PSY* 111	General Psychology I	3
	Total Semester Credit Hours	**15**

Freshman Year – Spring Semester

Course #	Title	Credits
BIO* 110	Principles of the Human Body	3
DAR* 112	Group Counseling: Theory & Techniques	3
DAR* 158	Biology of Addiction	3
MAT* 123	Elementary Statistics (or higher)	3
Elective	Humanities	3
	Total Semester Credit Hours	**15**

Sophomore Year – Fall Semester

Course #	Title	Credits
DAR* 251	Counseling Internship I +	6
Elective ++	Restricted	3
Elective	Fine Arts	3
Elective	Computer Literacy	3
	Total Semester Credit Hours	**15**

Sophomore Year – Spring Semester

Course #	Title	Credits
DAR* 213	Addiction Counseling II	3
DAR* 252	Counseling Internship II	6
PSY* 245	Abnormal Psychology	3
Elective	Restricted (ENG)	3
	Total Semester Credit Hours	**15**
	Total Credit Hours	**60**

+ Admission to the Counseling Internship (DAR* 251 & 252) is selective, based on a rigorous admission process after successful completion of the DARC core courses with a "C" or better.

DRUG AND ALCOHOL RECOVERY COUNSELOR

Certificate

This certificate program prepares students to take the certification exam used by the state of Connecticut (administered by the Connecticut Certification Board) for credentialing as an addiction counselor. This program is ideal for students who are already working in the field of addiction treatment, are receiving credentialed clinical supervision, and would like to be on a fast track for state certification. This program is also beneficial to those who hold advanced degrees (in counseling, social work, or a related field) and who would like to supplement their expertise, effectiveness, and marketability and become eligible for state of Connecticut licensure as an alcohol and drug counselor.

After completing the certificate program, students will have completed all of the substance abuse specific training required to be eligible to sit for the certification exam. Students will have concurrently achieved nearly half of the requirements for an associate degree in Drug and Alcohol Recovery Counseling. Typically, students earn the certificate on their way to completing the associate degree. For more information, contact the Program Coordinator, Cher Shannon, at (203) 285-2321 or e-mail at (cshannon@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
DAR* 101	Public Health Issues: Abuse & Addiction	3
DAR* 111	Addiction Counseling I	3
ENG* 101	Composition	3
	Total Semester Credit Hours	**9**

Freshman Year - Spring Semester

Course #	Title	Credits
DAR* 112	Group Counseling: Theory & Techniques	3
DAR* 158	Biology of Addiction	3
DAR* 213	Addiction Counseling II	3
Elective +	Restricted	3
	Total Semester Credit Hours	**12**
	Total Credit Hours	**21**

++ Restricted Electives - DAR* 114, 117, 119, 212, 220

EARLY CHILDHOOD EDUCATION

Associate in Science

The Early Childhood Education Program has earned Accreditation from NAEYC Commission on Associate Degree Accreditation. An Associate degree and three certificate options are available in the Early Childhood Education program. The Early Childhood Education associate degree program is validated under the Connecticut Early Childhood Education Articulation Plan. Graduates of the associate degree program are eligible for admission as articulation students to any of the state's participating baccalaureate institutions which offer Early Childhood Education Teacher Certification programs; in the University of Connecticut's Human Development and Family Relations major; or in Charter Oak State College's child studies concentration.

The terms for credit award and student eligibility vary under each option. However, in general, students must meet the following eligibility requirements:

• Be a graduate from a validated associate degree program in Early Childhood Education in Connecticut

• Meet specific admissions requirements of the college or university into which transfer is being sought

• Complete all Early Childhood Education associate degree courses with a grade of "C" or better and meet the college's or university's requirements for transfer of general education

• Complete all Early Childhood Education associate degree student teaching with a grade of "C" or better in a center accredited by the National Association for the Education of Young Children (NAEYC)

• Furthermore, if a student is seeking to transfer into an Early Childhood Education Teacher Certification program, it is strongly recommended that, prior to transfer, she or he possess the following state certification requirements:

• A score of 1,100 or better on the SAT, successful completion of the Praxis I examination, or have initiated the process of taking the Praxis I examination

• A 2.7 grade point average if seeking admission to a teacher certification education program in Connecticut.

For more information, call the Early Childhood Education Program Coordinator, Carmelita Valencia-Daye, at (203) 285-2172 or e-mail CValencia-Daye@gatewayct.edu. For scholarship information, contact CT Charts a Course at 1 800 832-7784 or (203) 397-4036.

EARLY CHILDHOOD EDUCATION PROGRAM OUTCOMES

Upon successful completion of the program requirements, well-prepared graduates should know and be able to:

Standard 1: Promoting Child Development and Learning Students prepared in associate degree programs use their understanding of young children's characteristics and needs, and of multiple inter-acting influences on children's development and learning, to create environments that are healthy, respectful, supportive, and challenging for all children.

Standard 2: Building Family and Community Relationships
Students prepared in associate degree programs know about, understand, and value the importance and complex characteristics of children's families and communities. They use this understanding to create respectful, reciprocal relationships that support and empower families, and to involve all families in their children's development and learning.

Standard 3: Observing, Documenting, and Assessing to Support Young Children and Families
Students prepared in associate degree programs know about and understand the goals, benefits, and uses of assessment. They know about and use systematic observations, documentation, and other effective assessment strategies in a responsible way, in partnership with families and other professionals, to positively influence children's development.

Standard 4: Teaching and Learning
Students prepared in associate degree programs integrate their understanding of and relationship with children and families; their understanding of developmentally effective approaches to teaching and learning; and their knowledge of academic disciplines to design, implement, and evaluate experiences that promote positive development and learning for all young children.

Standard 5: Becoming a Professional

Students prepared in associate degree programs identify and conduct themselves as members of the early childhood profession. They know and use ethical guidelines and other professional standards related to early childhood practice. They are continuous, collaborative learners who demonstrate knowledgeable, reflective and critical perspectives on their work, making informed decisions that integrate knowledge from a variety of sources. They are informed advocates for sound educational practices and policies.

In addition, well prepared graduates of the program also need a set of skills:

Supportive Skill 1: Skills in self-assessment and self-advocacy

Supportive Skill 2: Skills in mastering and applying foundational concepts from General Education

Supportive Skill 3: Written and verbal communication skills

Supportive Skill 4: Skills in making connections between prior knowledge/experience and new learning

Supportive Skill 5: Skills in identifying and using professional resources

Conceptual Framework of the Early Childhood Education Program at Gateway Community College

Vision Statement

The vision of the Early Childhood Program at Gateway Community College is to prepare well qualified teachers who understand how children learn; can plan and implement developmentally and individually appropriate learning experiences that are aligned to standards and are based on knowledge of individual children (typical and atypical) from diverse cultural backgrounds, and can plan within and across disciplines, taking into account the family, the community and curricular goals and objectives.

Mission Statement

The mission of the Early Childhood Education Program is to provide a comprehensive curriculum that enables students to seek employment in the field of Early Education and Care, working with children from diverse backgrounds; to transfer to a baccalaureate program to continue their training in Early Childhood Education; or to increase their skills in working with young children.

Program Philosophy

The early childhood education program at Gateway Community College adopts a philosophy that includes a perspective about how learning occurs and how the teaching act influences learning. The program's philosophy stresses the importance of preparing dedicated and skilled professionals to work in the learning community knowing diverse theories not limited to the views of Piaget, Dewey, Vygotsky, Erickson and Montessori.

The program recognizes the responsibility of the teacher to deal with each student as an individual, value diversity, and recognize that the student's behavior is a direct reflection of his or her life experiences.

In keeping with the Institution's and program's mission, the Early Childhood Education program holds the following principles and strives to foster them in its students:

• When active engagement accompanies learning opportunities, learning is at its best.

• When content is connected to the real world, learning is facilitated.

• Critical thinking, reflection, and problem solving are prized and encouraged.

• Multiple measures of assessment provide a well-rounded insight of the learner's construction of knowledge.

• Knowing and understanding the families of children and the communities in which they 1ive is key to enhancing a child's development and learning and paramount to involving families and communities.

• Cultural diversity of the family and the developmental diversity of the child must be understood and appreciated.

• Utilization of multiple learning modalities addresses a variety of learning styles.

Curriculum

The Early Childhood Program offers a Child Development Associate Preparation Certificate, a one-year Teacher Assistant Certificate, an Administration and Leadership Certificate and an Associate Degree with an option of Continued Studies (transfer) or Early Childhood (career).

Preparing adult learners to work in diverse and multicultural setting and have the skills to implement developmentally appropriate teaching practices is a principal component of the program. The program requires a sequence of observation and teaching practices to prepare students who understand child development and can effectively work with children.

In keeping with the College's mission the early childhood courses and programs are widely accessible to students, many of whom are working full-time, via a variety of delivery systems. Flexibility of course offerings and responding to the needs of the early childhood workforce are primary. The program continually seeks opportunities to provide students with tuition free courses by responding to alternative funding opportunities and forming alliances with local and statewide agencies.

Course delivery formats include (1) traditional classroom format, (2) on-line courses (3) accelerated courses in one week to five week formats, (4) an accelerated degree such as a plan developed to offer the complete degree on a part-time basis over a 36 month period and the fast track offering of certificates that students could complete within 11 weeks. The Child Development Preparation Certificate is offered on-line. To enhance student's success in course work, Learning Communities, collaboration between the Early Childhood faculty member and the developmental Reading and English, faculty member are being developed.

Professional Commitments

The Early Childhood Program has a strong commitment to diversity and reflects as much as possible the culture and language of the students and community that it serves. Additionally, faculty members have formed collaboration with the Learning Disabilities Specialist in order to incorporate students with special needs into the program. Frequent offering of courses at the worksite enhance accessibility for students. Responding to the needs of the workforce is paramount.

Community Connections

Community responsiveness is a key component of the program. Outreach into the community is evidenced by the creation of the Early Learning Center and the Accreditation Facilitation Project that assists centers with NAEYC Accreditation and expands the availability of high quality field placements for observation and student teaching. The Early Learning Center, a 60 child NAEYC Accredited community day care facility is an on site laboratory school that serves as a model of best practices and is a field placement site for observation students and student teachers.

EARLY CHILDHOOD EDUCATION ASSOCIATE DEGREE

The Early Childhood Education Associate in Science degree is comprised of general education requirements (24-25 credits), program requirements (25 credits) and a choice of either a Continued Studies track (12 credits) or an Early Childhood track (12 credits) for a total of 61-62 credits.

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
ENG* 102 or ENG* 200	Literature and Composition Advanced Composition Or any 200 level literature elective (221, 222, 231, 232, 251 or 262)	3
PSY* 111	General Psychology I	3
Elective	Natural Science	3-4
Elective or ECE* 110	Computer Literacy Using Computers in ECE	3
Elective +	Fine Arts	3
Elective ++	Mathematics	3
	Total Semester Credit Hours	**24-25**

+ Fine Arts Electives: ART* 101, 102, 103, MUS* 101, ENG* 214
++ Math Elective: Students are advised that in general, MAT* 143 and MAT* 144 are required for Teacher Certification Programs.

PROGRAM REQUIREMENTS

Course #	Title	Credits
PSY* 122	Child Growth & Development	3
ECE* 101	Introduction to Early Childhood Education	3
ECE* 210	Observation, Participation & Seminar	3
ECE* 231	Early Language & Literacy Development	3
ECE* 295	Student Teaching	6
ECS* 107	Introduction to Exceptional Children Seminar I	4
SOC* 111	Child, Family, School and Community	3
	Total Credit Hours	**28**

For the completion of their degree, students may choose either the Continued Studies Track or the Early Childhood Education Track.

CONTINUED STUDIES PATH

This track is designed for students who plan to transfer to a four year institution for further study. It also prepares you with the appropriate academics and practicum necessary for a career in Early Childhood. Since the amount of transfer credit varies from one institution to another, students are advised to consult the catalog from the four year colleges under consideration.

Course #	Title	Credits
HIS* 201	U.S. History I	3
Electives		9
Total Credit Hours		**12**

EARLY CHILDHOOD EDUCATION PATH

The following selection of courses is designed for students who plan to enter the job market or who are already employed in early education care and desire to improve their knowledge and competency. Graduates of this path will be able to apply for the Earlly Childhood Teacher's Credential.

Course #	Title	Credits
ECE* 176	Health, Safety and Nutrition	3
Electives +	Restricted	9
	Total Credit Hours	**12**

+ Restricted EARLY CHILDHOOD EDUCATION ELECTIVES   (below)

Students may choose from among the following courses for the Early Childhood Education electives:

Course #	Title	Credits
ECE* 103	Creative Experiences for Children	3
ECE* 106	Music and Movement for Children	3
ECE* 109	Science and Math for Children	3
ECE* 110	Using Computers in ECE	3
ECE* 141	Infant/Toddler Growth and Development	3
ECE* 180	CDA Credential Preparation	3
ECE* 181	CDA Credential Preparation II	3
ECE* 205	Creative Activities and Media	3
ECE* 206	Administration and Supervision of ECE Programs	3
ECE* 241	Methods and Techniques for Infant/Toddlers	3
ENG* 114	Children's Literature	3
PSY* 214	Advanced Child Growth/Development	3

Students are advised to consult the catalog of the transferring institution for appropriate choices.

ADMINISTRATION AND LEADERSHIP

Certificate

Provides specialized college-level course work in administration, leadership, and management to parallel the competency and training requirements needed to obtain the Connecticut Director's Credential (CDC) which is issued through Charter Oak State College to applicants who have successfully met requirements necessary to obtain the credential at a specific level.

Course #	Title	Credits
BMG* 200	Human Resources Management	3
ECE* 206	Administration and Supervision of Early Childhood Programs	3
ECE* 212	Leadership in Early Childhood Programs	3
ECE* 213	Finance for Early Childhood Programs	3
SOC* 111	Child, Family, School and Community	3
	Total Credit Hours	**15**

CHILD DEVELOPMENT ASSOCIATE CREDENTIAL

Certificate

The Child Development Associate Credential is a national credentialing program that focuses on the skills of early care and education professionals; it is a performance-based assessment of childcare staff, home visitor, and family care providers. The Child Development Associate Credential is designed for individuals who wish to obtain a Child Development Associate (CDA) through the Council for Early Childhood Professional Recognition under the direct assessment system.

Among the assessment requirements for center-based and family childcare are:

1. Be age 18 years old or older.
2. Hold a high school diploma or GED
3. Have 480 hours of experience working with children during the past five years
4. Have 120 clock hours of formal child care education within the past five years

The courses in this program provide students with the required 120 clock hours of education for the credentialing program. Credit earned as part of this program can be applied to the Early Childhood Education certificate and degree programs. For scholarship information, contact Connecticut Charts-A-Course at (800) 832-7784. For more information about this program, call the Program Coordinator, Carmelita Valencia-Daye, at (203) 285-2172 or e-mail at CValencia-Daye@gatewayct.edu.

PROGRAM REQUIREMENTS

Course #	Title	Credits
PSY* 122	Child Growth and Development	3
ECE* 101	Introduction to Early Childhood Education	3
ECE* 180	Child Development Associate Credential	3
	Total Credit Hours	**9**

TEACHER ASSISTANT

Certificate

This program prepares students to be assistant teachers and teacher aides in the early education and care profession. The program also provides training for individuals already employed in a preschool situation who desire to improve their knowledge and competency in working with children.

Students who complete this program are qualified to assist teachers in all aspects of professional childcare and to guide and supervise individual and group activities. Graduates may also transfer into the Early Childhood Education program leading to the Associate in Science degree. For more information, call the Program Coordinator, Carmelita Valencia-Daye, at (203) 285-2172 or e-mail CValencia-Daye@gatewayct.edu.

PROGRAM REQUIREMENTS

Course #	Title	Credits
PSY* 122	Child Growth and Development	3
ECE* 101	Introduction to Early Childhood Education	3
ECE* 103	Creative Experiences for Children	3
ECE* 106	Music and Movement for Children	3
ECE* 109	Science and Math for Children	3
ECE* 210	Observation, Participation and Seminar	3
ECS* 107	Introduction to Exceptional Children I	4
ENG* 101	Composition	3
ENG* 114	Children's Literature	3
SOC* 111 or ECE* 180	Child, Family, School and Community Child Development Associate Credential	3
	Total Credit Hours	**31**

EARLY CHILDHOOD SPECIAL EDUCATION

Associate in Science

The Early Childhood Special Education Associate in Science degree program provides students with both theoretical knowledge and practical skills. Graduates should be able to screen and identify the unique needs of preschoolers and their families and define early intervention services needed to address those unique needs. The graduate will be able to describe and plan a flexible, interactive curriculum for preschoolers with disabilities in the regular classroom. This program will familiarizes students with major laws affecting special education.

The Early Learning Center at the Long Wharf Campus, along with preschool programs in the Greater New Haven area, offer laboratory facilities to students. One associate degree and one certificate option is available in the Early Childhood Special Education program. Courses taken as part of either program can be transferred to any of Connecticut's participating baccalaureate institutions that offer Early Childhood Education Teacher Certification programs: University of Connecticut's Human Development and Family Relations major and Charter Oak State College's Child Studies concentration. The terms for credit award and student eligibility vary. However, in general, students must meet the following transfer eligibility requirements:

Be a graduate from a validated associate degree program in Early Childhood Education in Connecticut

Meet specific admission requirements of the college or university into which transfer is being sought

Complete all associate degree Early Childhood Special Education courses with a grade of "C" or better and meet the college's or university's requirements for transfer of general education

Complete all associate degree Early Childhood Education student teaching with a grade of "C" or better in a center accredited by the National Association for the Education of Young Children (NAEYC)

Furthermore, if a student wishes to transfer into an Early Childhood Education Teacher Certification program, it is strongly recommended that, prior to transfer, he or she demonstrate the following state certification requirements:

A score of 1000 or better on the SAT, successful completion of the Praxis I examination, or have initiated the process of taking the Praxis I examination

A 2.7 grade point average if seeking admission to a teacher certification education program in Connecticut

For more information, call the Early Childhood Special Education Program Coordinator, Dr. Earnestine B. Kirkland, at (203) 285-2189 or e-mail at (ekirkland@gatewayct.edu). For scholarship information, contact CT Charts-a-Course at (800) 832-7784.

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
BIO* 105	Introduction to Biology	4
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
ENG* 102 or ENG* 200	Literature and Composition or Advanced Composition	3
MAT* 137	Intermediate Algebra	3
PSY* 111	General Psychology I	3
Elective or ECE* 110	Computer Literacy Using Computers in ECE	3
Elective +	Fine Arts	3
	Total Semester Credit Hours	**25**

PROGRAM REQUIREMENTS

Course #	Title	Credits
ECS* 107	Introduction to Exceptional Children: Seminar I	4
ECS* 112	Introduction to Early Childhood Special Education I	3
ECS* 113	Creative Art/Play for Exceptional Children	3
ECS* 207	Introduction to Exceptional Children II	3
ECS* 225	Diagnostic Assessment of Children with Special Needs	3
ECS* 226	Curriculum for Exceptional Children: Seminar I	3
ECS* 228	Field Observation in Special Education I	3
MAT* 143	Math for Elementary Education	3
PSY* 105	Group Dynamics	3
PSY* 122	Child Growth and Development	3
Electives +	Restricted	9-10
	Total Credit Hours	**65-66**

+ Restricted Electives:

Course #	Title	Credits
ECE* 103	Creative Experiences for Children	3
ECE* 109	Science and Math for Children	3
ECE* 121	First Aid, CPR and Medication Administration	1
ECE* 123	Introduction to Family Support and Respite Care	4
ECE* 141	Infant/Toddler Growth and Development	3
ECE* 142	Developmental Interventions for Infants and Toddlers	3
ECE* 206	Administration and Supervision of ECE Programs	3
ECE* 241	Methods and Techniques for Infant/Toddlers	3
ENG* 114	Children's Literature	3
PSY* 214	Advanced Child Growth/Development	3
PSY* 245	Abnormal Psychology	3
PSY* 258	Behavior Modification	3
SOC* 111	Child, Family, School and Community	3
SPA* 101	Introduction to Spanish	3

EARLY CHILDHOOD SPECIAL EDUCATION PROGRAM OUTCOMES

Upon completion of all program requirements, graduates should be able to:

- Differentiate between Early Childhood Education and Early Childhood Special Education (ECSE)
- Know the historical and philosophical bases for ECSE
- Create his or her own philosophy of ECSE
- Identify and explain the laws that mandate services for children with special needs
- Explain why ECSE programs are publicly funded
- Identify and explain the following planning plans used in ECSE: the Individualized Family Services Plan (IFSP) and the Individualized Education Plan (IEP)
- Examine the eligibility requirements for families under the above plans
- Explain and discuss the historical and constitutional foundations of the laws, regulations, major provision of PL 94-142 and its amendments, and other Acts
- Examine laws, regulations, and court decisions to explain the purposes of ECSE programs and the parental rights to dispute with ECSE program staff
- Plan adaptive two- and three-dimensional art activities and integrate them with other subject areas using common materials and emphasizing process over product
- Identify, explain, describe, classify, and give causes and characteristics of typical child growth and development
- Recognize such aspects of exceptionalities as: attention deficit hyperactivity disorder (ADHD), communication disorders, mental retardation, emotional and behavioral disorders, learning disabilities, visual and hearing impairments, physical disabilities, and giftedness
- Understand health and safety issues related to young children with special needs
- Dispel the myths and assumptions about dysfunction
- Understand the rationale and strategies for involving parents and families in the screening, assessment, education programming, and placement of their child
- Participate in student teaching to apply theoretical teaching techniques
- Observe and record children's behavior to gain insight into why they act as they do
- Teach effectively, as evaluated by supervising teachers and college faculty
- Be able to examine their own behavior, values, sensitivities, and knowledge before attempting to analyze the child's behavior in detail or develop an intervention plan
- Identify the theorists and define and explain the current theoretical approaches to modifying a child's behavior
- Use step-by-step guidance techniques and workable methods for dealing effectively with children's behavior
- Identify and effectively analyze a child's behavior and select the simplest and most obvious strategy to effect change
- Discuss curricula appropriate for different exceptionalities
- Plan and write effective curricula, lesson plans, and IEPs that include goals, objectives, and strategies to effect change in children with special needs
- Understand the importance of working cooperatively with other staff members, professionals, and parents to form an effective team
- Be sensitive to culturally diverse populations and plan curricula that are authentic and culturally appropriate

EARLY CHILDHOOD SPECIAL EDUCATION

Certificate

The Early Childhood Special Education Certificate program provides students with both theoretical knowledge and practical skills. Graduates are able to screen and identify the unique needs of preschoolers and their families and define early intervention services needed to address those unique needs. The graduate can describe and plan a flexible, interactive curriculum for preschoolers with disabilities in the regular classroom. This program familiarizes students with laws affecting special education. For more information, call the Early Childhood Special Education Program Coordinator, Dr. Earnestine B. Kirkland, at (203) 285-2189 or e-mail at (ekirkland@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
ECE* 110	Using Computers in ECE	3
ECS* 107	Introduction to Exceptional Children: Seminar I	4
ECS* 112	Introduction to Early Childhood Special Education	3
ECS* 207	Introduction to Exceptional Children II	3
ECS* 225 or Elective +	Diagnostic Assessment of Children with Special Needs Directed	3
ECS* 226	Curriculum for Exceptional Children: Seminar I	3
ECS* 228	Field Observation in Special Education I	3
ENG* 101	Composition	3
PSY* 122	Child Growth and Development	3
	Total Credit Hours	**28**

+ Special Education Directed Electives (choose one from the following):

Course #	Title	Credits
ECE* 106	Music and Movement for Children	3
ECE* 109	Science and Math for Children	3
ECE* 113	Creative Art/Play for Exceptional Children	3
ECE* 206	Admin. and Supervision of Early Childhood Programs	3
ENG* 114	Children's Literature	3
PSY* 214	Advanced Child Growth/Development	3
PSY* 245	Abnormal Psychology	3
PSY* 258	Behavior Modification	3
SOC* 111	Child, Family, School and Community	3
SPA* 101	Elementary Spanish I	3

FAMILY SUPPORT AND RESPITE CARE

Certificate

The Early Childhood Special Education Family Support and Respite Care Certificate will provide students in ECSE and health care providers with another option in Early Childhood Special Education.

FAMILY SUPPORT AND RESPITE CARE CERTIFICATE PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates will be able to:

- Use theoretical knowledge and practical skills to work effectively with and provide respite care for families on a planned or emergency basis, either at home or in the community.

PROGRAM REQUIREMENTS

Course #	Title	Credits
ECE* 121	First Aid, CPR and Medication Administration	1
ECE* 123	Introduction to Family Support and Respite Care	4
ECS* 107	Introduction to Exceptional Children: Seminar I	4
PSY* 105	Group Dynamics	3
	Total Credit Hours	**12**

INFANT AND TODDLER DEVELOPMENT

Certificate

The Early Childhood Special Education Infant and Toddler Development certificate program prepares students to care for and teach infants and toddlers from birth to age three.

INFANT AND TODDLER DEVELOPMENT CERTIFICATE PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates will be able to:

- Use theoretical knowledge and practical skills to work effectively with infants and toddlers in preschool settings or institutions in the Greater New Haven community.

PROGRAM REQUIREMENTS

Course #	Title	Credits
ECS* 107	Introduction to Exceptional Children: Seminar I	4
ECS* 225	Diagnostic Assessment of Children with Special Needs	3
ECS* 226	Curriculum for Exceptional Children: Seminar I	3
ECS* 228	Field Observation in Special Education I	3
ECE* 141	Infant and Toddler Growth and Development	3
ECE* 142	Developmental Interventions for Infants and Toddlers	3
ECE* 241	Methods and Techniques for Infant/Toddler	3
Electives	See Below	6-8
	Total Credit Hours	**28-30**

Electives:

Course #	Title	Credits
ECE* 121	First Aid, CPR and Medication Administration	1
ECE* 123	Introduction to Family Support and Respite Care	4
ECE* 180	CDA Credential Preparation	3
ECS* 112	Introduction to Early Childhood Special Education	3
ECS* 113	Creative Art/Play for Exceptional Children	3
ECS* 207	Introduction to Exceptional Children: Seminar II	3
ENG* 114	Children's Literature	3
PSY* 105	Group Dynamics	3
PSY* 122	Child Growth and Development	3
PSY* 258	Behavior Modification	3

ENGINEERING TECHNOLOGY

BIOMEDICAL ENGINEERING TECHNOLOGY

Associate in Science

The rapid development of biomedical equipment technology, combined with the introduction of increasingly complex and vital biomedical equipment, has created a serious need for well-prepared technicians in hospitals and medical research centers. These technicians must understand this new technology and be capable of maintaining, calibrating, modifying, and adapting this equipment. Gateway's Biomedical Engineering Technology associate degree program will qualify students for these demanding careers.

BIOMEDICAL ENGINEERING TECHNOLOGY PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Show mastery of the knowledge, techniques, skills, and modern tools of biomedical engineering technology
- Apply current knowledge and adapt to emerging applications in mathematics, science, engineering, and technology
- Conduct, analyze, and interpret experiments and apply experimental results to improve processes
- Apply creativity in the design of systems, components, and processes appropriate to program objectives
- Function effectively as part of a team
- Identify, analyze, and solve technical problems
- Communicate effectively
- Recognize the need for and posses the ability to pursue lifelong learning
- Understand professional, ethical, and social responsibilities
- Be cognizant of contemporary professional, societal, and global issues and be aware of and respect diverse cultures
- Show a commitment to quality, timeliness, and continuous improvement

Growth in the biotechnology industry offers graduates of this program new opportunities as instrumentation calibration technicians for production, validation, and research equipment and instrumentation. Equipment manufacturers require the services of biomedical engineering technicians to assist in developing, manufacturing, testing, service, and technical sales of biomedical equipment. Graduates of Gateway's program are also capable of dealing with most types of non-medical electronics.

For more information, call the Program Coordinator, Thomas McGrath, at (203) 285-2378 or e-mail at (tmcgrath@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
BME* 110	Biomedical Technology	2
CHE* 111	Concepts of Chemistry	4
CET* 116	Computer Applications for Technology	3
EET* 110	Electric Circuits I	4
ENG* 101	Composition	3
MAT* 175	College Algebra and Trigonometry	3
	Total Semester Credit Hours	**19**

Freshman Year - Spring Semester

Course #	Title	Credits
BME* 116	Physiological Systems	4
COM* 171	Fundamentals of Human Communication	3
EET* 136	Electronics I	4
MAT* 187	Precalculus Mathematics	3
PHY* 121	General Physics 1	4
	Total Semester Credit Hours	**18**

Sophomore Year - Fall Semester

Course #	Title	Credits
BME* 210	Biomedical Instrumentation	4
EET* 252	Digital Electronics	4
MAT* 254	Calculus 1	4
Elective	Humanities	3
	Total Semester Credit Hours	**15**

Sophomore Year - Spring Semester

Course #	Title	Credits
BME* 212	Biomedical Equipment Design	4
BME* 214	Advanced Bioinstrumentation	4
BME* 220	Biomedical Practicum	3
Elective	Social Science	3
	Total Semester Credit Hours	**14**
	Total Credit Hours	**66**

COMPUTER ENGINEERING TECHNOLOGY

Associate in Science

The Computer Engineering Technology program provides training in hardware configuration, software development, programming applications, and the interfacing of hardware and software systems. Students receive hands-on training on various computer systems, test equipment, and software products.

COMPUTER ENGINEERING TECHNOLOGY PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Understand professional responsibilities in the workplace
- Demonstrate safety practices in the workplace
- Develop a commitment to customer service
- Communicate effectively with others
- Work effectively in teams
- Identify, analyze, and solve technical problems
- Complete assigned tasks in a timely fashion
- Demonstrate creativity in solving problems
- Recognize the need for continuous learning
- Use diagnostic software and testing equipment to troubleshoot problems
- Install and configure hardware and software
- Demonstrate an understanding of digital data communications
- Utilize the Internet and other resources to collect data to solve problems
- Use CAD technology to create electrical schematics
- Use CAD technology to simulate and evaluate electrical circuits
- Apply mathematics as a problem-solving tool
- Understand structured programming techniques
- Program in high level and assembly language
- Analyze circuits and devices

Graduates of this program possess the skills to troubleshoot, repair, configure, install, and program basic computer systems. The experience and training gained in the Computer Engineering Technology Associate in Science degree program will also prepare students for the national CompTIA Computer Technicians A+ Certification Examination. For more information, call Paul Silberquit at (203) 285-2368 or e-mail at (psilberquit@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
CAD* 126	Electrical Graphics/CAD	3
CET* 116	Computer Applications for Technology	3
EET* 110	Electric Circuits I	4
ENG* 101	Composition	3
Elective	Math	3
	Total Semester Credit Hours	**16**

Freshman Year - Spring Semester

Course #	Title	Credits
CET* 124	Structured Programming	4
EET* 136	Electronics I	4
MAT* 175	College Algebra & Trigonometry	3
Elective	Fine Arts	3
Elective	Social Science	3
	Total Semester Credit Hours	**17**

Sophomore Year - Fall Semester

Course #	Title	Credits
CET* 126	Computer Servicing	4
CET* 210	Computer Systems Software	4
COM* 171	Fundamentals of Human Communication	3
CST* 180	Networking I	4
	Total Semester Credit Hours	**15**

Sophomore Year - Spring Semester

Course #	Title	Credits
CET* 270	CET Practicum	3
CST* 273	Security Management Practices	3
EET* 252	Digital Electronics	4
PHY* 121	General Physics I	4
Elective	Humanities	3
	Total Semester Credit Hours	**17**
	Total Credit Hours	**65**

COMPUTER SERVICING

Certificate

The Computer Servicing Certificate Program is designed for students seeking entry level technical skills for the information technology (IT) industry. The Program consists of three courses. Each course focuses on specific skills in computer applications, computer system hardware and PC operating systems. Successful mastery of the material should prepare the student for CompTIA's A+ Certification exams (www.comptia.org). A+ Certification is an internationally recognized standard in the IT field. Students who desire to continue their education can use the Computer Servicing Certificate Program as a stepping stone to more advanced studies in the Computer Engineering Technology Program at Gateway Community College. For more information, call Thomas Adams at (203) 285-2377 or e-mail at (tadams@gatewayct.edu).

COMPUTER SERVICING PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Use computer applications such as word processing, spreadsheets, PowerPoint and internet access to effectively communicate and research topics
- Demonstrate safety in the workplace
- Install, configure and upgrade computer hardware and software
- Use diagnostic software and test equipment to troubleshoot problems
- Develop a commitment to customer service
- Recognize the need for continuous learning

PROGRAM REQUIREMENTS

Freshman Year

Course #	Title	Credits
CET* 116	Computer Applications for Technology	3
CET* 126	Computer Servicing I	4
CET* 210	Computer Systems Software	4
	Total Semester Credit Hours	**11**

ELECTRICAL ENGINEERING TECHNOLOGY

Associate in Science

The Electrical Engineering Technology program focuses on a variety of electrical and electronic devices, circuits, systems, and related applications that are integral parts of our modern, high-tech society. Students in this program receive theoretical and practical instruction to analyze, construct, test, and troubleshoot a wide variety of electrical, electronic, digital, microprocessor and communication circuits, and systems.

Exceptional instructors guide students in the proper selection, set-up, and use of instrumentation for design, testing, and measurement. Course projects utilize advanced software to model, construct, and analyze electrical and electronic devices, circuits, and systems to produce graphic results. Senior-level students complete an internship program.

ELECTRICAL ENGINEERING TECHNOLOGY PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Professionally use general test instrumentation and present data
- Analyze and understand both analog and digital circuits
- Know the basic components of electrical circuits (resistors, capacitors, and inductors) and how they behave in a circuit
- Present high-quality written and oral reports of technical procedures performed in the laboratory
- Predict the circuit dynamics and power consumption of components in both analog and digital circuits
- Analyze and solve circuit problems to meet given requirements
- Work cooperatively and productively with others in a laboratory test setting
- Utilize fundamental computer software applications
- Possess a basic understanding of digital circuits, integrated circuits, and semiconductors
- Understand the operation of instrumentation and how it is used to measure circuit characteristics
- Use circuit-modeling programs to evaluate complex circuits
- Use computers to perform word processing, data compilation, and graphical analysis
- Use and read vendor catalogs, instruction manuals, and electrical drawings

The extensive instruction and hands-on training received as part of the Electrical Engineering Technology program make each graduate a valuable and desired contributor in Connecticut's wide-ranging, high technology industries. The EET program also provides graduates with excellent opportunities for further education and professional advancement. Gateway's Electrical Engineering Technology program maintains the highest educational and technical standards. For more information, call the Electrical Engineering Technology Program Coordinator, Eric Flynn, at (203) 285-2371 or e-mail (eflynn@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
CET* 116	Computer Applications for Technology	3
CAD* 124	CAD: Electrical	1
EET* 110	Electric Circuits I	4
ENG* 101	Composition	3
MAT* 175	College Algebra and Trigonometry	3
	Total Semester Credit Hours	**14**

Freshman Year - Spring Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
EET* 114	Electric Circuits II	4
EET* 136	Electronics I	4
MAT* 187	Precalculus Mathematics	3
PHY* 121	General Physics I	4
	Total Semester Credit Hours	**18**

Sophomore Year - Fall Semester

Course #	Title	Credits
EET* 232	Electronics II	4
EET* 262	Electrical Machinery and Controls	4
EET* 252	Digital Electronics	4
MAT* 254	Calculus I	4
Elective	Humanities	3
	Total Semester Credit Hours	**19**

Sophomore Year - Spring Semester

Course #	Title	Credits
EET* 256	Microprocessors	4
EET* 272	Electronic Communications	4
EET* 296	EET Internship	3
Elective	Social Science	3
Elective	Science	3
	Total Semester Credit Hours	**17**
	Total Credit Hours	**68**

ELECTRONICS TECHNICIAN

Certificate

The Electronics Technician Certificate program is designed for students who are interested in pursuing immediate employment in the electronics industry, while allowing for advanced educational opportunities. Students will acquire a solid electrical and electronics background along with industrial skills to work with hand tools and electronic instrumentation in conjunction with electrical, electronic, and digital circuits. They will also use the latest CAD software to design and simulate electronic circuits. For more information, call the Program Coordinator, Eric Flynn, at (203) 285-2371 or e-mail eflynn@gatewayct.edu.

ELECTRONICS TECHNICIAN CERTIFICATE PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Understand the operation of a variety of devices used in electrical, electronic and digital circuits along with their applications
- Use Electronic CAD software to draw and simulate electrical and electronic circuit operations
- Demonstrate and understand the role and function of basic hand tools in the construction of electrical and electronic circuits and systems
- Construct electrical, electronic and digital circuits from a schematic
- Operate various instrumentation devices for testing and measuring circuit parameters within electronic circuits and systems
- Work cooperatively and productively with others in a laboratory setting

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
CET* 116	Computer Applications for Technology	3
EET* 110	Electric Circuits I	4
CAD* 126	Electronics Graphics CAD	3
	Total Semester Credit Hours	**10**

Freshman Year - Spring Semester

Course #	Title	Credits
EET* 136	Electronics I	4
EET* 252	Digital Electronics	4
Elective	Technical (Consult technical advisor)	4
	Total Semester Credit Hours	**12**
	Total Credit Hours	**22**

GENERAL ENGINEERING TECHNOLOGY

Associate in Applied Science

The General Engineering Technology program prepares students to become generalists. It equips them with a strong mathematics, science, humanities, and general technology background to solve problems in the workplace. This program's interdisciplinary approach is particularly attractive to those seeking technological skills, career enhancement, upward mobility, and/or transfer to a baccalaureate degree program. Students may tailor individualized programs to meet specific educational and/or professional goals. For more information, call the Division Director, Paul Silberquit, at (203) 285-2368 or e-mail at (psilberquit@gatewayct.edu).

GENERAL ENGINEERING TECHNOLOGY PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Apply mathematics and sciences to general engineering
- Apply human and communication skills to work effectively
- Plan and implement manufacturing processes
- Apply knowledge of computer applications to general engineering technologies
- Use basic skills in 2-dimensional computer-aided drafting
- Explain and understand engineering graphics and conventional drafting practices
- Understand the fundamentals of electricity
- Understand mechanics and statics

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
ARC* 133	Technical Drafting	3
CET* 116	Computer Applications for Technology	3
ENG* 101	Composition	3
MFG* 102	Manufacturing Processes	3
MAT* 175	College Algebra and Trigonometry	3
	Total Semester Credit Hours	**15**

Freshman Year - Spring Semester

Course #	Title	Credits
CHE* 111	Concepts of Chemistry	4
COM* 171	Fundamentals of Human Communication	3
MAT* 187	Precalculus Mathematics	3
PHY* 121	General Physics I	4
Elective	Fine Arts	3
	Total Semester Credit Hours	**17**

Sophomore Year - Fall Semester

Course #	Title	Credits
CAD* 108	CAD Introduction	3
EET* 110	Electric Circuits I	4
PHY*122	General Physics II	4
Elective	Humanities	3
Elective	Technical	4
	Total Semester Credit Hours	**18**

Sophomore Year - Spring Semester

Course #	Title	Credits
MEC* 104	Mechanics - Statics	3
Elective	Social Science	3
Elective	Open	3
Elective	Technical	4
	Total Semester Credit Hours	**13**
	Total Credit Hours	**63**

MANUFACTURING ENGINEERING TECHNOLOGY

Associate in Science

Manufacturing Engineering Technology is a varied and challenging field that is becoming increasingly important with the advent of new production methods. Manufacturing Engineering Technicians work with engineers to design experiments, plan production methods, find better ways to manufacture products, troubleshoot, inspect, and perform quality control. Students use Computer Aided Drafting (CAD), Computer Aided Manufacturing (CAM), and Computer Integrated Manufacturing (CIM) technologies to design cutting tools, gauges, jigs, fixtures, and dies; study production line layout, production forecasting, planning, inventory control, and statistical quality control; learn the methods of determining and distributing expenses and estimating material, labor, and tool costs of product manufacturing; make time studies of manufacturing operations; and investigate hydraulic control, manufacturing processes, and engineering materials. For more information, call the Manufacturing Engineering Technology Program Coordinator, Dr. Tsu-Chien Cheu, at (203) 285-2374 or e-mail at (tcheu@gatewayct.edu).

MANUFACTURING ENGINEERING TECHNOLOGY PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Apply mathematics and physics to manufacturing engineering
- Use human and communication skills to work effectively
- Plan and implement manufacturing engineering technology
- Perform 2- and 3-dimensional computer aided drafting
- Work with CNC programming and operations for computer-aided manufacturing
- Perform statistical quality control
- Read blueprints and understand geometric dimensioning and tolerancing
- Perform tool design for manufacturing

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
CET* 116	Computer Applications for Technology	3
ARC* 133	Technical Drafting	3
COM* 171	Fundamentals of Human Communication	3
MFG* 102	Manufacturing Processes	3
MAT* 175	College Algebra and Trigonometry	3
	Total Semester Credit Hours	**15**

Freshman Year - Spring Semester

Course #	Title	Credits
CAD* 108	CAD Introduction	3
ENG* 101	Composition	3
MFG* 108	Computer Aided Manufacturing	4
MAT* 187	Precalculus Mathematics	3
PHY* 121	General Physics I	4
	Total Semester Credit Hours	**17**

Sophomore Year - Fall Semester

Course #	Title	Credits
CAD* 200	3D CAD Modeling	4
MFG* 204	Advanced Computer Aided Manufacturing	4
PHY*122 or MAT* 254	General Physics II Calculus I	4
Elective +	Restricted	3
Elective	Social Science	3
	Total Semester Credit Hours	**18**

Sophomore Year - Spring Semester

Course #	Title	Credits
MFG* 208	Process Engineering	4
MFG* 216	Tool Designing	4
MFG* 230	Statistical Process Control	3
MFG* 296	Manufacturing Internship	3
Elective	Humanities	3
	Total Semester Credit Hours	**17**
	Total Credit Hours	**67**

+ Restricted Electives: MFG* 239, QUA* 114 or MFG* 210

QUALITY CONTROL

Certificate

The Quality Control Certificate program is a sequence of courses that prepares students for the Certified Quality Technician (CQT) certification examination by the American Society for Quality Control (ASQC). The program assists students to develop competencies in concepts and techniques, statistical methods, sampling principles, reliability principles and applications, metrology and calibration fundamentals, quality data, quality analysis, problem solving and cost methodology, quality audit concepts and principles, geometry, trigonometry, and metric conversion. For more information, call the Program Coordinator, Dr. Tsu-Chien Cheu, at (203) 285-2374 or e-mail at (tcheu@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
ARC* 133	Technical Drafting	3
QUA* 114	Principles of Quality Control	3
MAT* 175	College Algebra and Trigonometry	3
	Total Semester Credit Hours	**9**

Freshman Year - Spring Semester

Course #	Title	Credits
MFG* 102	Manufacturing Processes	3
MFG* 239	Geometric Dimensioning and Tolerancing	3
MFG* 230	Statistical Process Control	3
	Total Semester Credit Hours	**9**
	Total Credit Hours	**18**

MECHANICAL ENGINEERING TECHNOLOGY

Associate in Science

Mechanical Engineering Technology concerns power and the machinery used to convert power to useful work. The Mechanical Engineering Technician is a practically-oriented member of the engineering team who applies existing technology to the solution of engineering problems. Students learn how to extract and analyze engineering data. Microcomputers are integrated into the curriculum to aid in both classroom and laboratory activities. Senior students are assigned projects in which they apply the principles they have learned. Applications to current technology are stressed and individual initiative is encouraged. The program is designed to train students as Mechanical Engineering Technicians ready for entry-level positions in industry upon graduation.

MECHANICAL ENGINEERING TECHNOLOGY PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Prepare and present technical and laboratory reports using modern computer software and oral presentation skills
- Prepare drawings of machine components both manually and with the help of AutoCAD software
- Understand the nature, science, structure, and properties of metallic, plastic, ceramic, and composite engineering materials
- Measure the mechanical properties (tensile strength, hardness, impact strength, torsional shear strength, toughness, etc.) of a material specimen in a laboratory
- Draw the Free Body Diagram (FBD) of a two-dimensional body and then write and solve its equations of equilibrium
- Perform force analyses of machine and frames
- Calculate the deformation of and thermal stress caused by temperature changes in a metal object
- Calculate the stresses within spherical pressure vessels
- Apply differential and integral calculus to develop the equations of motion for an object
- Analyze the forces acting on an object in free or restricted motion
- Analyze a column and determine the critical load that will cause it to buckle

Students enrolling in the Mechanical Engineering Technology program should plan to spend approximately $60.00 on drafting equipment. For more information, call the Program Coordinator, Cyprian Ukah, at (203) 285-2375 or e-mail at (cukah@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
ARC* 133	Technical Drafting	3
CAD* 108	CAD Introduction	3
MAT* 175	College Algebra and Trigonometry	3
MFG* 102	Manufacturing Processes	3
PHY* 121	General Physics I	4
	Total Semester Credit Hours	**16**

Freshman Year - Spring Semester

Course #	Title	Credits
ENG* 101	Composition	3
MAT* 187	Precalculus Mathematics	3
MEC* 104	Mechanics - Statics	3
MEC* 265	Materials Science	4
Elective	Fine Arts	3
Elective	Science	3
	Total Semester Credit Hours	**19**

Sophomore Year - Fall Semester

Course #	Title	Credits
MEC* 234	Electromechanical Controls	4
MAT* 254	Calculus I	4
MEC* 250	Strength of Materials	3
MEC* 271	Fluid Mechanics	4
Elective	Social Science	3
	Total Semester Credit Hours	**18**

Sophomore Year - Spring Semester

Course #	Title	Credits
CET* 116	Computer Applications for Technology	3
COM* 171	Fundamentals of Human Communication	3
MEC* 283	Design of Machines	4
MEC* 296	Mechanical Engineering Internship	2
Elective	Humanities	3
	Total Semester Credit Hours	**15**
	Total Credit Hours	**68**

COMPUTER ASSISTED DRAFTING

Certificate

This certificate program develops entry-level skills for individuals interested in using Computer Assisted Drafting (CAD) to produce detailed architectural or schematic drawings based on rough sketches, specifications, and calculations made by scientists, engineers, and designers. CAD software permits easy modification and preparation of designs. Furthermore, it allows a drafter to view a design from various angles not easily achieved with traditional board approaches. AutoCAD software is used in this program. Every course offered in the Computer Assisted Drafting certificate program is offered in the Manufacturing Engineering Technology program. Every graduate of the Manufacturing Engineering Technology program will automatically qualify for a CAD certificate. Students enrolling in this program should plan on spending approximately $60.00 on drafting equipment. For more information, call the Program Coordinator, Cyprian Ukah, at (203) 285-2375 or e-mail at (cukah@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
ARC* 133	Technical Drafting	3
CAD* 108	CAD Introduction	3
CET* 116	Computer Applications for Technology	3
MFG* 102	Manufacturing Processes	3
	Total Semester Credit Hours	**12**

Freshman Year - Spring Semester

Course #	Title	Credits
CAD* 200	3D CAD Modeling	4
CAD* 220	Parametric Deisgn	3
CAD* 271	CAD Solids Mechanical Pro-Engineer	3
MAT* 175	College Algebra & Trigonometry	3
	Total Semester Credit Hours	**13**
	Total Credit Hours	**25**

RAILROAD ENGINEERING TECHNOLOGY

Associate in Science

Railroad Engineering Technology will prepare students for employment in the railroad industry within a career path for maintaining and repairing railcars through a degree orientation in electromechanical equipment. Graduates will be prepared for technical application exams commonly administered by railroad companies for entry-level maintenance of equipment positions. Graduates with a 3.0 GPA or greater who pursue employment with Metro-North Railroad will be exempt from the Metro-North application exam. The program reflects current skills needed within job positions that require electromechanical knowledge and skills.

The Signaling and Communications Option will prepare students for employment in the railroad industry for maintaining and repairing rail line and railcars where signaling and communications systems are used. Graduates will be prepared for technical application exams commonly administered by railroad companies for entry-level signaling and switching positions. Graduates with a 3.0 GPA or greater who pursue employment with Metro-North Railroad will be exempt from the Metro-North application exam. The program reflects current skills needed within job positions that require electronic and communications knowledge and skills. For more information on either program, call Paul Silberquit at (203) 285-2368 or e-mail at (psilberquit@gatewayct.edu).

RAILROAD ENGINEERING TECHNOLOGY OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Demonstrate and have an understanding of typical railroad rules and regulations including changes that are a result of accidents and imposed by Homeland Security
- Demonstrate a basic understanding of career opportunities within the railroad industry with an Electromechanical oriented degree

Electromechanical Degree:

- Demonstrate a basic understanding of the operation of railcar electromechanical systems
- Conduct entry level troubleshooting and repairs of electromechanical systems on railcars
- Be prepared to take an application exam on electromechanical skills for employment in the railroad industry

Signaling & Communications Option:

- Demonstrate a basic understanding of the operation of rail line and railcar signaling and communication systems
- Conduct entry level troubleshooting and repairs on signaling and communications systems along rail lines and on railcars
- Be prepared to take an application exam on signaling and communications skills for employment in the railroad industry

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
CET* 116	Computer Applications for Technology	3
EET* 110	Electric Circuits I	4
ENG* 101	Composition	3
MAT* 137	Intermediate Algebra	3
RET* 101	History of Railroading	3
	Total Semester Credit Hours	**16**

Freshman Year - Spring Semester

Course #	Title	Credits
EET* 252	Digital Electronics	4
PHY* 121	General Physics I	4
RET* 110	Careers in the Railroad	2
RET* 120	Railroad Rules, Regulations, Standards & Practices	3
Elective	Social Sciences (Restricted) +	3
	Total Semester Credit Hours	**16**

Sophomore Year - Fall Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
MEC* 234	Electromechanical Controls	4
RET* 220	Safety in the Railroad Workplace	3
RET* 230	Reading & Interpreting Railroad Diagrams	2
RET* 240	Railroad Pneumatics & Hydraulic Controls	4
	Total Semester Credit Hours	**16**

Sophomore Year - Spring Semester

Course #	Title	Credits
RET* 242	Railroad HVAC Systems	4
RET* 244	Railroad Electromechanical Troubleshooting	4
RET* 270	Railroad Practicum	3
Elective	Fine Arts	3
Elective	Humanities (Restricted) +	3
	Total Semester Credit Hours	**17**
	Total Credit Hours	**65**

Humanities Restricted Electives: ENG* 102, ENG* 200, ENG* 202

Social Science Restricted Electives: PSY* 105, PSY* 111, PSY* 240, PSY* 247, SOC* 111, OR SOC* 230

RAILROAD ENGINEERING TECHNOLOGY - Signaling & Communications Option

Associate in Science

The first two semesters are identical to the Electromechanical oriented Degree Program.

Sophomore Year - Fall Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
MEC* 234	Electromechanical Controls	4
RET* 220	Safety in a Railroad Workplace	3
RET* 250	Railroad Signaling and Switching	4
Elective	Computer Engineering Technology	3-5
	Total Semester Credit Hours	**17-19**

Sophomore Year - Spring Semester

Course #	Title	Credits
RET* 252	Railroad Communications	4
RET* 254	Railroad Maintenance,Troubleshooting and Repair	4
RET* 270	Railroad Practicum	3
Elective	Fine Arts	3
Elective	Humanities (Restricted) +	
	Total Semester Credit Hours	**17**
	Total Credit Hours	**66-68**

Humanities Restricted Electives: ENG* 102, ENG* 200, or ENG* 202

Associate in Science

Small businesses are vital to the growth of our economy and will create the majority of new jobs. This program prepares students to be entrepreneurs and to start up new businesses, grow their existing businesses, or apply entrepreneurial skills in a corporate setting. It also develops small business management skills in those running small businesses. Practical training is provided through internships in small business settings. The program also enables transfer into bachelor's degree programs. For more information, call the Program Coordinator, Rose Bednarz-Luglio, at (203) 285-2198 or e-mail at (rluglio@gatewayct.edu).

ENTREPRENEURIAL STUDIES PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Demonstrate a level of mathematical skill appropriate for self-employment in a business environment
- Read, understand, and prepare standard types of business communications
- Understand basic theory and practice in entrepreneurship and small business management
- Understand competition and its relationship to private enterprise
- Explain the marketing concept for entrepreneurs
- Use the Internet and other data sources for business purposes, including research and marketing
- Understand the importance of a business plan
- Develop a business plan
- Apply knowledge of computer applications, including word processing and spreadsheets

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
CSA* 135 or CSC* 101	Spreadsheet Applications Introduction to Computers	3
COM* 171	Fundamentals of Human Communications	3
ENG* 101	Composition	3
MAT* 137 +	Intermediate Algebra	3
PSY* 111 or SOC* 101	General Psychology I Principles of Sociology	3
Elective	Natural Science	3
Elective	Humanities	3
	Total Semester Credit Hours	**21-22**

+ Or another math course approved by instructor

PROGRAM REQUIREMENTS

Course #	Title	Credits
ACC* 113	Principles of Financial Accounting	3
BBG* 210	Business Communication	3
BBG* 231	Business Law I	3
BBG* 294	Business Internship	3
BES* 218	Entrepreneurship	3
BES* 219	Management and Growth - Small Business	3
BES* 239	Business Plan	3
BMK* 201	Principles of Marketing	3
BMG* 202	Principles of Management	3
BMK* 215	Principles of eBusiness	3
ECN* 101	Macroeconomics	3
Electives	Business	6
	Total Credit Hours	**60-61**

Certificate

Small businesses are vital to the growth of our economy and will create the majority of new jobs. This program prepares students to be entrepreneurs, start up new businesses, grow their existing businesses, or apply entrepreneurial skills in a corporate setting. It also develops management skills to those running small businesses. The certificate program courses may be applied toward the associate degree program in Entrepreneurial Studies. For more information, call the Program Coordinator, Rose Bednarz-Luglio, at (203) 285-2198 or e-mail at (rluglio@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
ACC* 113	Principles of Financial Accounting	3
BES* 218	Entrepreneurship	3
BES* 219	Management and Growth—Small Business	3
BES* 239	Business Plan	3
BMK* 215	Principles of eBusiness	3
BMK* 201	Principles of Marketing	3
Electives	Business	6
	Total Credit Hours	**24**

GENERAL STUDIES

Associate in Science

The General Studies curriculum provides the fundamentals of a college education together with a range of open electives, allowing students to explore various courses of study and clarify their educational and occupational goals. It is the least restrictive of all the degrees offered by the College so that students may put together a program compatible with their individual interests and skills. General Studies is particularly appropriate for those who have not yet decided on a specific career or discipline and who wish to examine a number of different possibilities. For more information, call the Program Coordinator, Jonah Cohen, at (203) 285-2289 or e-mail at (jcohen@gatewayct.edu).

GENERAL STUDIES PROGRAM OUTCOMES
Upon successful completion of all program requirements, graduates will possess:
- competence in written and oral communication
- basic understanding of mathematics and science
- ability to locate and evaluate information
- ability to think critically and logically
- a sense of how courses relate to educational and occupational goals
- capacity for continued learning

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
MAT* 109 or higher	Quantitative Literacy	3
Elective	Computer Literacy	3
Elective	Fine Arts	3
Elective	History	3
Elective	Natural Science	3-4
Elective	Humanities - (restricted to ENG* 102)	3
	Total Semester Credit Hours	**24-25**

PROGRAM REQUIREMENTS

Course #	Title	Credits
Elective	Social Science (choose from: anthropology, psychology, or sociology)	3
Elective	Social Science (choose from: economics, geography, history, or political science)	3
Elective	Social Science - open	3
Elective	Math or Natural Science (choose from: biology, chemistry, earth science, environmental science, math, physics)	3 - 4
Elective	Choose from: biology, chemistry, computer science, earth science, environmental science, math, physics)	3 - 4
Electives	Open +	21
	Total Credit Hours	**60-61**

+ For a list of electives see page 60.

FOOD SERVICE MANAGEMENT

Associate in Science

The food service industry is one of the fastest-growing industries in this country and now ranks third in the nation in terms of growth. The industry offers job opportunities in many areas where food and drink are served, including commercial, industrial, and health care organizations. There are more than 600,000 restaurants in this country, employing more than nine million workers.

Food service establishments serve more than 800 million meals per week, and gross sales exceed $150 billion each year. Graduates of the Food Service Management program are qualified for employment in food production, food and beverage cost control, supervision, food service budgeting, and forecasting. As part of the course requirements, students participate in a 400-hour work experience program. Individuals who wish to continue their studies following graduation may transfer courses in this program to similar programs at the baccalaureate level.

Students in this program will be required to:

- Communicate with guests in Café Vincenzo
- Lift and transport food and other culinary products, equipment, small wares and utensils around the kitchen
- Lift and transport trays with hot and cold plated food, small ware and other items
- Pour and serve hot and cold liquids and beverages
- Use knives and other commercial cooking and food service equipment
- Maneuver in a commercial kitchen, dining room and related facilities
- Use commercial cleaning and sanitizing equipment and materials
- Handle a variety of food items including meat, fish, poultry, produce and dairy products
- Follow local Board of Health and safety protocol

FOOD SERVICE MANAGEMENT PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Identify, organize, plan, and allocate resources in food service operations such as time, materials and facilities, money, and human resources
- Demonstrate a working knowledge of food preparation theories and techniques, and use this knowledge to meet the production requirements of a food service operation within a projected budget
- Effectively work with others as a member of a team, serving clients and customers, teaching others new skills, exercising leadership behaviors, and negotiating and working with others from diverse backgrounds
- Apply concepts of procurement and inventory to purchase, receive, store, issue, and distribute food and related items in a food service operation
- Identify such current trends in the food service industry as delivery systems and functions
- Operate effectively, appropriately suggesting modifications to existing systems in order to improve products or services and develop new or alternative systems
- Select and apply the appropriate food service procedures, tools, or machines, including computer applications, to produce desired results
- Demonstrate ethical behavior and self-management in personal and professional activities
- Perform basic mathematical computations accurately and appropriately, especially with regard to food and beverage production, purchasing, and cost controls
- Describe and apply basic marketing, sales, and merchandising methods in hospitality operations

Students in this program are responsible for purchasing uniforms, books, and knives. A physical examination and travel to internship/work experience sites are required. For information, call the Hospitality Management Program Coordinator, Stephen Fries, at (203) 285-2175 or e-mail at (sfries@gatewayct.edu).

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
ENG* 102	Literature and Composition	3
MAT* 109	Quantitative Literacy	3
PSY* 111	General Psychology I	3
Elective	Computer Literary	3
Elective	Natural Science	3-4
	Total Credit Hours	**21-22**

PROGRAM REQUIREMENTS

Course #	Title	Credits
ACC* 113	Principles of Accounting I	3
BMG* 220	Human Resources Management	3
HSP* 100	Introduction to the Hospitality Industry	3
HSP* 101	Principles of Food Preparation	3
HSP* 108	Sanitation and Safety	3
HSP* 110	Quantity Food Production	4
HSP* 117	Beverage Management	3
HSP* 201	International Foods (S)	4
HSP* 202	Catering and Event Management (S)	3
HSP* 211	Food and Beverage Cost Control (S)	3
HSP* 231	Hospitality Law (F)	3
HSP* 237	Hospitality Marketing (F)	3
HSP* 295	Work Experience/Internship (S)	3
	Total Credit Hours	**62-63**

CULINARY ARTS

Certificate

The Culinary Arts Certificate program is the first step toward a career in the food preparation industry. The 30 credit hour certificate program is open to both full-time and part-time students. Students obtain a well-rounded education, combining both laboratory and classroom experience. In addition to academic course work, students prepare and serve a wide variety of meals in the dining room at the Long Wharf Campus to our staff, faculty, and the public. Students in this program are responsible for purchasing uniforms, books, and knives. A physical examination and travel to internships/work experience sites are required. For more information, call the Hospitality Management Program Coordinator, Stephen Fries, at (203) 285-2175 or e-mail (sfries@gatewayct.edu) or the Coordinator, Daniel Palmquist at (203) 285-2193 or e-mail (dpalmquist@gatewayct.edu).

Students in this program will be required to:

- Communicate with guests in Café Vincenzo
- Lift and transport food and other culinary products, equipment, small wares and utensils around the kitchen
- Lift and transport trays with hot and cold plated food, small ware and other items
- Pour and serve hot and cold liquids and beverages
- Use knives and other commercial cooking and food service equipment
- Maneuver in a commercial kitchen, dining room and related facilities
- Use commercial cleaning and sanitizing equipment and materials
- Handle a variety of food items including meat, fish, poultry, produce and dairy products
- Follow local Board of Health and safety protocol

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
HSP* 101	Principles of Food Preparation	3
HSP* 103	Basic Baking and Pastry Arts	3
HSP* 108	Sanitation and Safety	3
HSP* 110	Quantity Food Production	4
HSP* 131	Principles of Dining Service (F)	1
NTR* 106	Culinary Nutrition (F)	2
	Total Semester Credit Hours	**16**

Freshman Year - Spring Semester

Course #	Title	Credits
HSP* 201	International Foods (S)	4
HSP* 202	Catering and Event Management (S)	3
HSP* 215	Baking and Pastry Arts II	4
HSP* 295	Work Experience/Internship + (S)	3
	Total Semester Credit Hours	**14**
	Total Credit Hours	**30**

+ Culinary Arts Work Experience (HSP* 295) Students are required to participate in a 400-hour internship at an off-campus site (restaurant, hotel, resort, camp, etc.). The hospitality coordinator and the faculty can assist students with finding internships but the student must actively seek out a position approved by the instructor. At the work site, classroom theory will be applied to practical on-the-job training.

Academic credits earned in this program are transferable to the Food Service Management associate degree program.

PROFESSIONAL BAKER

Certificate

This certificate is designed to further the education and training for those already working in this field as well as to accommodate individuals entering careers in the Culinary Arts. All credits courses are transferable to the Culinary Arts Certificate. For more information, call the Hospitality Management Program Coordinator, Stephen Fries, at (203) 285-2175 or e-mail at (sfries@gatewayct.edu).

Students in this program will be required to:

- Communicate with guests in Café Vincenzo
- Lift and transport food and other culinary products, equipment, small wares and utensils around the kitchen
- Lift and transport trays with hot and cold plated food, small ware and other items
- Pour and serve hot and cold liquids and beverages
- Use knives and other commercial cooking and food service equipment
- Maneuver in a commercial kitchen, dining room and related facilities
- Use commercial cleaning and sanitizing equipment and materials
- Handle a variety of food items including meat, fish, poultry, produce and dairy products
- Follow local Board of Health and safety protocol

PROGRAM REQUIREMENTS

Freshman Year – Fall Semester

Course #	Title	Credits
HSP* 101	Principles of Food Preparation	3
HSP* 103	Basic Baking & Pastry Arts	3
HSP* 108	Sanitation & Safety	3
	Total Semester Credit Hours	**9**

Freshman Year - Second Semester

Course #	Title	Credits
HSP* 215	Baking & Pastry Arts II	4
HSP* 295	Hospitality Management, Work Experience/Internship	3
	Total Semester Credit Hours	**7**
	Select two of the following Continuing Education courses:	
	Italian Pastry & Desserts / Cake Decorating / Breads & Desserts / Advanced Baking	
	Total Semester Credit Hours	**17**

HOTEL-MOTEL MANAGEMENT

Associate in Science

The lodging industry is one of the fastest-growing industries in the nation. In the more than 50,000 hotels and motels in the U.S.A., nearly four million rooms are available each day. Gross annual income exceeds $20 billion dollars. In the first year at Gateway Community College, students study the various aspects of the lodging industry. In the second year, emphasis is placed on practical management experience. As part of the course requirements, students participate in a 400-hour work experience/internship program. For individuals who want to continue their studies following graduation, courses in this program are transferable to similar programs at four-year colleges and universities.

Students in this program will be required to:

- Communicate with guests in Café Vincenzo
- Lift and transport food and other culinary products, equipment, small wares and utensils around the kitchen
- Lift and transport trays with hot and cold plated food, small ware and other items
- Pour and serve hot and cold liquids and beverages
- Use knives and other commercial cooking and food service equipment
- Maneuver in a commercial kitchen, dining room and related facilities
- Use commercial cleaning and sanitizing equipment and materials
- Handle a variety of food items including meat, fish, poultry, produce and dairy products
- Follow local Board of Health and safety protocol

HOTEL-MOTEL MANAGEMENT PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Identify, organize, plan, and allocate resources in such hotel operations as time, materials and facilities, money, and human resources
- Process reservations, register guests, process guest departures, and assist in resolving guest problems
- Describe functional relationships among hotel divisions and departments
- Perform night audit procedures
- Summarize developmental and operational components of the following industries: airline, surface travel, cruise, and hotel/motel/resort
- Identify and implement systems and processes for room status changes, front office posting, telephone/pbx, bank maintenance, cash transactions, and security and guest keys
- Understand food preparation theories and techniques and use this knowledge to meet production requirements of a food service operation
- List and describe the steps in planning destination development and discuss the social, cultural, and economic impact of this development on the local environment
- Identify major geographical areas in terms of tourism generation
- Distinguish between various systems of travel and tourism distribution and intermediary functions
- Effectively work as a member of a team, serve clients and customers, teach others new skills, exercise leadership behavior, negotiate, and work with others from diverse backgrounds
- Apply concepts of procurement and inventory to purchase, receive, store, issue, and distribute food and related items in a food service operation
- Identify such current trends in the lodging industry as delivery systems and functions
- Operate effectively, suggesting appropriate modifications of existing systems to improve products or services and develop new or alternate systems
- Demonstrate ethical behavior and self-management in personal and professional activities
- Perform basic mathematical computations accurately and appropriately, especially with regard to hotel and guest accounting, night audits, and cost controls
- Describe and apply basic marketing, sales, and merchandising methods in hospitality operations

Graduates of the Hotel-Motel Management program at GCC are qualified for employment as supervisors in small hotels and motels, as trainees and assistants in large hotels and motels, and as salespersons and front office supervisors. Students in this program are responsible for purchasing uniforms, books, and knives. A physical examination and travel to internship / work experience sites are required. For more information, call the Hospitality Management Program Coordinator, Stephen Fries, at (203) 285-2175 or e-mail at (sfries@gatewayct.edu).

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
ENG* 102	Literature and Composition	3
MAT* 109	Quantitative Literacy	3
PSY* 111	General Psychology I	3
Elective	Natural Science	3-4
Elective	Computer Literacy	3

PROGRAM REQUIREMENTS

Course #	Title	Credits
ACC* 113	Principles of Accounting I	3
BMG* 220	Human Resources Management	3
HSP* 100	Introduction to the Hospitality Industry	3
HSP* 101	Principles of Food Preparation	3
HSP* 108	Sanitation and Safety	3
HSP* 110	Quantity Food Production	4
HSP* 117	Beverage Management	3
HSP* 211	Food and Beverage Cost Control (F)	3
HSP* 231	Hospitality Law (F)	3
HSP* 237	Hospitality Marketing (F)	3
HSP* 244	Meetings, Conventions and Special Events Mgmt. (S)	3
HSP* 246	Hotel Accounting/Front Office Management (S)	3
HSP* 295	Work Experience/Internship (S)	3
	Total Credit Hours	**61-62**

MEETINGS, CONVENTIONS AND SPECIAL EVENTS MANAGEMENT

Certificate

This certificate is designed for students seeking careers in the growing field of meeting planning. It will also develop and update the skills of those presently in the field. The certificate emphasizes the management of and services for meetings, conventions, trade shows, and special events. Students will be prepared for positions in such areas as independent or entry-level corporate meeting planning; conference, trade show, and association management; and convention/meeting services in the hotel industry. The certificate will also enable the veteran meeting planner to obtain college credentials in his/her profession. Furthermore, it gives administrative assistants and others who plan meetings as part of their regular jobs a formal opportunity to learn about this industry and enhance their planning skills. For more information, call the Hospitality Management Program Coordinator, Stephen Fries, at (203) 285-2175 or e-mail at (sfries@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
BBG* 210 or COM* 171	Business Communication or Fundamentals of Human Communication	3
BMK* 215	Principles of eBusiness	3
HSP* 100	Introduction to the Hospitality Industry	3
HSP* 231	Hospitality Law (F)	3
HSP* 237	Hospitality Marketing (F)	3
HSP* 244	Meetings, Conventions and Special Events Mgmt. (S)	3
Elective +	Restricted	3
	Total Credit Hours	**21**

+ Restricted Electives: CSA* 135, CSA* 140, BOT* 220
(F) Offered fall semester
(S) Offered spring semester

HUMAN SERVICES

Associate in Science

The field of Human Services is dynamic and challenging. The concept of human services stresses care for the whole individual and his or her relation to the environment. The sequential courses develop knowledge of personality patterns and behavior, roles and functions of community resources, and skills in each curriculum option. The program prepares students for employment in a variety of social service settings, including mental health services, schools, children and family services, community action programs, health and welfare planning, elderly services, and the criminal justice system.

Curricula prepare students for entry into the job market and for transfer into baccalaureate degree programs. Field experience is an integral part of the Human Services curriculum. It exposes students directly to clients in community service settings to apply the theories and skills learned in the classroom. The field experience and seminar courses must be taken during the same semester. In the various degree programs, students are eligible for field placement once they complete 24-35 credits toward the degree and are able to demonstrate a sufficient level of competence and skill. Transfer option students are required to complete only one semester of field placement.

Prior to each semester Human Services students are expected to consult with the Program Coordinator, Cher Shannon at 203.285.2321 or e-mail at (cshannon@gatewayct.edu) before registering for courses.

HUMAN SERVICES PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Apply basic knowledge of history, natural sciences, social sciences, behavioral sciences, and humanities to work with diverse populations and human service systems
- Effectively organize, acquire, and present information in written and spoken form
- Research and write a paper following MLA or APA format
- Use effective verbal and nonverbal interpersonal relationship skills when working with people
- Conduct a bio-psychosocial assessment interview
- Assess, plan, implement, and evaluate the phases necessary for effective human service interventions
- Assess formal and informal service/support systems related to client needs and strengths
- Select appropriate support and intervention services to address the diverse needs of clients in specific populations served by social service agencies
- Identify human service agencies and programs within Greater New Haven, Connecticut, and the national social services system
- Recognize and respond to cultural diversity and the diverse challenges facing certain populations served by human services
- Act professionally with clients and agency personnel in human service settings
- Understand psychology and social service theoretical models for assessment, service provision, case management, and evaluation of client services
- Understand social policy and social advocacy in relation to societal responses to formal help
- Distinguish between various human service career options and recognize the most marketable professional skills for employment in contemporary human service settings
- Identify basic problems that human service workers encounter and the most useful strategies for resolution
- Analyze the effectiveness of human service agencies' implementation of programs to meet social needs
- Behave ethically according to professional human services standards

HUMAN SERVICES CAREER

Associate in Science

The Human Services Career course of study is designed for students who plan to enter the job market or who are already employed by a human services agency.

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
BIO* 110 or BIO* 115	Principles of the Human Body Human Biology	3-4
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
ENG* 102	Literature and Composition	3
MAT* 109 or MAT* 137	Quantitative Literacy Intermediate Algebra	3
PSY* 111	General Psychology I (pre-req. for PSY* 245)	3
Elective	Computer Literacy	3
Elective	Fine Arts	3
	Total Credit Hours	**24-25**

PROGRAM REQUIREMENTS

Course #	Title	Credits
HSE* 101	Introduction to Human Services	3
HSE* 271	Field Work Seminar I (F)	3
HSE* 281	Human Services Field Work I (F)	3
POL* 111	American Government	3
PSY* 105	Group Dynamics	3
PSY* 233	Theories, Methods, Practice of Counseling and Therapy (F)	3
PSY* 245	Abnormal Psychology	3
SOC* 101	Principles of Sociology	3
SOC* 104 or SOC* 111	Marriage and Family Child, Family, School and Community	3
Electives	Restricted + (See below)	9
	Total Credit Hours	**60-61**

+ BIO 113, DAR* (any), PSY* 209, 122, 210, SOC* 114, 115, CJS* (any), HSE* above 101)

Associate in Science

This course of study prepares students for transfer into a four-year college while training them in human services and developing the skills necessary in entry-level positions. Students wishing to transfer are strongly encouraged to obtain catalogs from the four-year college(s) under consideration to ensure the transferability of credits.

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
BIO* 105 or BIO* 115	Introduction to Biology Human Biology	4
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
CSC	Elective	3
ENG* 102 or ENG Elec.	Composition II: Introduction to Literature English Transfer Elective	3
MAT* 109 or MAT* 137	Quantitative Literacy Intermediate Algebra	3
PSY* 111	General Psychology	3
Elective	Fine Arts	3

PROGRAM REQUIREMENTS

Course #	Title	Credits
ANT* 105	Cultural Anthropology	3
HIS* 101 or HIS* 102	Western Civilization I Western Civilization II	3
HSE* 101	Introduction to Human Services	3
HSE* 271	Field Work Seminar I (F)	3
HSE* 281	Human Services Field Work I (F)	3
POL* 111	American Government	3
PHL* 101	Introduction to Philosophy	3
PSY* 105	Group Dynamics	3
PSY* 245	Abnormal Psychology	3
SOC* 101	Principles of Sociology	3
SOC* 104 or SOC* 111	Marriage and Family Child, Family, School and Community	3
SOC* 117	Minorities in the U.S.	3
	Total Credit Hours	**61**

HUMAN SERVICES

Certificate

The Human Service Certificate curriculum is designed for the professional who is already employed in the field of Human Services. For more information, call Cher Shannon, Program Coordinator at (203) 285-2321 or e-mail at (cshannon@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
HSE* 101	Introduction to Human Services	3
HSE* 247	Supervisors' Seminar (S)	3
POL* 111	American Government	3
PSY* 105	Group Dynamics	3
PSY* 111	Introduction of Psychology	3
PSY* 245	Abnormal Psychology	3
SOC* 101	Principles of Sociology	3
Elective	Restricted + (See below)	3
	Total Credit Hours	**30**

+ BIO 113, DAR* (any), PSY* 209, 122, 210, SOC* 114, 115, CJS* (any), HSE* above 101)
(S) Offered spring semester

HUMAN SERVICES: GERONTOLOGY OPTION

Associate in Science

This option prepares students for entry-level positions working with the elderly and for transfer to a four-year college. The option presents the demographic, social, biological, and psychological changes occurring in elderly people and how these changes determine the skills and services needed to work in gerontology.

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
BIO* 113	Physiology of Aging	3
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
ENG* 102	Literature and Composition	3
MAT* 109 or MAT* 137	Quantitative Literacy / Intermediate Algebra	3
PSY* 111	General Psychology I	3
Elective	Fine Arts	3
Elective	Computer Literacy	3

PROGRAM REQUIREMENTS

Course #	Title	Credits
HSE* 101	Introduction to Human Services	3
HSE* 247	Supervisor's Seminar	3
HSE* 271	Field Work Seminar I (F)	3
HSE* 281	Human Services Field Work I (F)	3
POL* 111	American Government	3
PSY* 209	Psychology of Aging (S)	3
PSY* 233	Theories, Methods, Practice of Counseling & Therapy	3
PSY* 245	Abnormal Psychology	3
SOC* 101	Principles of Sociology	3
SOC* 114	Sociology of Aging (F)	3
Electives	Restricted + (See below)	6
	Total Credit Hours	**60**

+ BIO 113, DAR* (any), PSY* 209, 122, 210, SOC* 114, 115, CJS* (any), HSE* above 101)
(F) Offered fall semester
(S) Offered spring semester

GERONTOLOGY

Certificate

The gerontology certificate curriculum meets the continuing educational needs of providers and users of services to older citizens. Applicants may be employees in the field of gerontology or elderly citizens themselves, hospital administrators, or students enrolled in other programs at the College. For more information, call Cher Shannon, Program Coordinator at (203) 285-2321 or e-mail at (cshannon@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
BIO* 113	Physiology of Aging	3
PSY* 209	Psychology of Aging (S)	3
SOC* 114	Sociology of Aging (F)	3
Electives	Choose **two** from below	6
	Total Credit Hours	**15**

Electives: HSE* 247, PSY* 210 or SOC* 115

(F) Offered fall semester
(S) Offered spring semester

THERAPEUTIC RECREATION
Certificate

This program prepares students for employment as therapeutic recreation specialists in health care facilities, day care centers, nursing homes, and facilities serving individuals with physical or mental disabilities. Students successfully completing the program receive a certificate from Gateway Community College that is recognized as qualifying them for positions as entry-level TR specialists. State regulations for TR director positions may require further certification. For more information, call Cher Shannon, Program Coordinator at (203) 285-2321 or e-mail at (cshannon@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
BIO* 113	Physiology of Aging	3
HSE* 151	Introduction to Therapeutic Recreation Services	3
HSE* 152	Programming in Therapeutic Recreation (F)	3
HSE* 153	Methods and Materials in Therapeutic Recreation (S)	3
HSE* 247	Supervisors' Seminar (S)	3
Elective	See Below	3
	Total Credit Hours	**18**

Electives: PSY* 209, PSY* 210, SOC* 114, SOC* 115
(F) Offered fall semester
(S) Offered spring semester

Certificate

This certificate supports the professional development of people who work with youth, ages 12 and up. The program facilitates an understanding of adolescent development and the diverse ways in which adolescents learn about and experience the world. Courses prepare youth workers to assist youth, colleagues, organizations, and communities. Students learn about valuable local, state, and national youth development projects and resources.

Field experience is an integral part of the Youth Worker curriculum and is coordinated with the seminar assignments. The field experience and seminar courses must be taken during the same semester. For more information, call Cher Shannon, Program Coordinator at (203) 285-2321 or e-mail at (cshannon@gatewayct.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
DAR* 101	Public Health Issues: Substance Use & Prevention	3
ENG* 101	Composition	3
HSE* 101	Introduction to Human Services	3
HSE* 228	Youth Worker Seminar	3
HSE* 271	Field Work Seminar I	3
HSE* 281	Human Services Field Work I	3
PSY* 105	Group Dynamics	3
SOC* 101	Principles of Sociology	3
Elective	Computer Literacy	3
Elective +	Restricted	3
Total Credit Hours		**33**

+ Electives: ECE* 101, PSY* 247, SOC* 104, SOC* 230

LIBERAL ARTS AND SCIENCES

LIBERAL ARTS AND SCIENCES PROGRAM OUTCOMES

Upon successful completion of all program requirements, students will be able to:

- Demonstrate an understanding of Western history and culture
- Think critically and logically
- Communicate effectively orally and in writing
- Apply scientific and/or quantitative reasoning skills in problem solving
- Recognize and appreciate the aesthetic and ethical dimensions of human endeavor
- Demonstrate the capability for continued learning
- Recognize and appreciate different cultures and perspectives.

LIBERAL ARTS AND SCIENCES

Associate in Arts

The Associate in Arts degree in Liberal Arts and Sciences (LAS) is designed for students who wish to complete a rigorous course of study in preparation for transfer to a baccalaureate degree program. A broadly integrated curriculum will provide an essential understanding of Western history and culture, as well as the academic skills necessary to engage it. Students will become familiar with techniques of inquiry in humanities, mathematics, natural science, and social science, allowing them to continue their education with confidence toward a 4-year degree in the discipline of their choice.

Courses which satisfy the requirements for an Associate's degree in the Liberal Arts and Sciences at Gateway are in many cases the same as those taught in the first two years of the Bachelor's degree program at receiving schools. With an LAS degree, students may pursue a professional degree, (e.g., in education, business, law, medicine, social work, etc.) or a liberal arts degree at the bachelor's level, (e.g., in English, philosophy, natural science, mathematics, sociology, etc.). In order to ensure maximum transfer credit to the college or university of choice, students are strongly encouraged to study the catalog of the institution to which they intend to transfer and consult directly with its admissions office. Students should also confer each semester with the LAS program coordinator or qualified transfer advisor as they proceed.

LAS students may access the Connecticut State University Dual Admission Transfer Compact (information at http://www.ct.edu/students/dual), the Pathway to Teaching at Southern Connecticut State University, or the Guaranteed Admission Program (GAP) at the University of Connecticut. Specific articulations also exist between Gateway and the University of Bridgeport, University of New Haven, and Albertus Magnus College.

For more information, contact the Program Coordinator, Dr. Lauren Doninger, at 203.285.2601 or e-mail LDoninger@gatewayct.edu.

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
Elective	English (Recommend 102 or 200 seek advising)	3
Social Science	History or Political Science	3
MAT* 137 or higher	Intermediate Algebra or higher	3
Elective	Natural Science	3-4
Elective	Computer Literacy	3
Elective	Fine Arts (Restricted) ART* 101 or 102 or MUS* 101	3
Total Credit Hours		**24-25**

PROGRAM REQUIREMENTS

- **Foreign Language**

Course #	Title	Credits
Foreign Language	FRE*/ITA*/SPA* 102 or higher Students may meet this requirement by completing ESL class(es) or level II of a foreign language in high school. If the requirement is met in high school, students will chooose open electives to fill the credit requirement. (seek advising)	3
Laboratory Science	Biology Chemistry Earth Science Physics	4
Social Science	Anthropology Psychology Sociology	3
Liberal Arts and Sciences Electives	Students are strongly encouraged to seek advisement and to carefully consider transfer issues and intended baccalaureate major.	15
Open Electives	Students are strongly encouraged to seek advisement and to carefully consider transfer issues.	12
Suggested LAS Electives (below) (seek advising) For students intending to major in disciplines other than natural sciences:	
Philosophy	PHL* 101, 111	
English Literature	ENG* 210, 221, 222, 231, 232, 245, 246, 251, 254	
Social Sciences	ECN* 101, 102; GEO* 101; POL* 102	
U.S. Political Foundations	HIS* 201, 202; 216; 217; POL* 111	
Math	MAT* 142, 143, 146, 167, 172 and above	
Suggested LAS Electives (below) (seek advising) For students intending to major in disciplines within natural sciences or mathematics, including those intending to become secondary teachers in natural sciences/mathematics and those in the Guaranteed Admission Program at UCONN Bachelor of Science track	
Math	MAT* 172, 175, 185, 186, 282, 254, 256	
Biology Chemistry Physics	Seek advising - multiple course sequences depending upon transfer goal	
Total Program Credit Hours		**37**
Total Degree Credit Hours		**61**

Liberal Arts & Sciences Transfer Opportunities

Liberal Arts & Sciences students at Gateway Community College are able to transfer seamlessly to many colleges and universities. Requirements of baccalaureate institutions vary greatly as do the award of transfer credits. Therefore, students should select a transfer institution early and work closely with the Liberal Arts & Sciences program coordinator or a qualified transfer advisor to ensure maximum transfer credit of their course selections.

Connecticut State University System (Central, Eastern, Southern, and Western) – The Dual Admission Compact

Gateway Community College participates in the Connecticut State University (CSU) Transfer Compact. Students in the LAS program at GCC are eligible for dual-admission to GCC and the CSU of choice and may transfer seamlessly with junior-level standing. Participation in the Compact provides students with dual advising from GCC and the designated CSU advisors as well as library privileges at the designated CSU. Compact students have access to CSU faculty and staff, and follow the catalog of record at the time of the Compact application. After completing the Associate in Arts at GCC, Compact students receive registration and housing preferences equal to university juniors.

Students must apply to the Compact Dual-Admission program before completing 15 college-level credits. Visit www.ctstateu.edu/academics/transfer.htm

University of Connecticut

The Guaranteed Admission Program (GAP) is a transfer agreement between GCC and the University of Connecticut that guarantees admission to the University provided certain requirements are met. First time students who have attempted no more than 30 transferable credits may enroll in GAP. Students must graduate from GCC with a minimum cumulative grade point average of 3.0 (3.3 for School of Business) and an associate degree in a Liberal Arts and Sciences.

Upon completion of an Associate in Arts degree in LAS with a GPA of 3.0, students may go on to the University of Connecticut College of Liberal Arts and Sciences (all majors), College of Agriculture and Natural Resources (select majors), or the School of Business (GPA of 3.3, all majors). Visit www.transfer.uconn.edu/gap.html. To complete the required application and begin the GAP advising process, see Dr. Lauren Doninger (203.285.2601, Ldoninger@gatewayct.edu). Former UConn degree-seeking students are not eligible to participate in GAP.

Pathway to Teaching – Southern Connecticut State University (SCSU)

The Pathway to Teaching is designed for the Liberal Arts and Sciences student who intends to become a certified elementary or secondary teacher in Connecticut. The Pathway prepares students to apply to the School of Education at SCSU and transfer seamlessly. Students interested in becoming elementary school teachers should contact Susan Logston (203.285.2187, slogston@gatewayct.edu). Students interested in becoming a middle or high school teacher should contact Lauren Doninger (203.285.2601, ldoninger@gatewayct.edu). Visit www.southernct.edu/education/. Students interested in Early Childhood Education Certification (birth to third grade) should contact Susan Logston.

University of Bridgeport

Gateway Community College and the University of Bridgeport (UB) have an articulation agreement that guarantees admission to UB and provides substantial scholarships based on GPA. GCC students must have completed their associate's degree and have earned a 2.5 GPA to be guaranteed admission. Program pathways are specified in the articulation agreement. UB will accept all GCC general education courses as equivalent to UB core curriculum or electives. There is no application fee and students will receive joint GCC and UB advising. Students participating in the UB articulation are eligible for the UB accelerated degree program – IDEAL. To complete the application and begin the dual-admission advising process, see Dr. Lauren Doninger (203.285.2601, Ldoninger@gatewayct.edu). Visit www.bridgeport.edu/pages/3296.asp

University of New Haven

Gateway Community College and the University of New Haven (UNH) have an articulation agreement that guarantees admission to UNH and provides substantial scholarships based on GPA. There is no application fee and students will receive joint GCC and UNH advising. With careful planning, students cam transfer seamlessly. Visit www.newhaven.edu/admissions/ugrad/process/transfer/

Albertus Magnus College

Gateway Community College and Albertus Magnus College (AMC) have an articulation agreement that guarantees admission with junior standing to all AA and AS degree graduates. The agreement includes the traditional AMC undergraduate program, the Accelerated Degree Programs, and New Dimensions. AMC provides guaranteed scholarships based on GPA. There is no application fee and students will receive joint GCC and AMC advising. Visit www.albertus.edu

NURSING

Associate in Science

The Connecticut Community College Nursing Program (CT-CCNP) is an innovative associate degree program of study offered at six Connecticut Community Colleges. Gateway Community College offers evening classes with day and evening clinical experiences. The common nursing program offers a four-semester curriculum designed to prepare registered nurses to function in the professional role utilizing current standards of nursing practice. In addition, students within the program have the same admission and policy standards, which allows for greater student flexibility.

The curriculum is built upon courses from the social and biological sciences, liberal arts, and nursing. These courses provide the foundation for the practice of nursing. Six core values (critical thinking, safe and competent practice, caring, professionalism, communication, and holistic care) provide the framework for organizing the nursing curriculum.

A graduate of the nursing program is awarded an Associate in Science degree and is eligible to take the National Council Licensing Examination for Registered Nurses (NCLEX-RN).
Graduates can apply for licensure through the Connecticut Department of Public Health.
The graduate is prepared to function as an entry-level practitioner in health care settings such as general or specialty hospitals, extended care facilities, doctors' offices, and clinics.

Approval and Accreditation

All of the programs are individually approved by the Connecticut State Board of Examiners for Nursing with the consent of the Commissioner of the Connecticut Department of Public Health and are accredited by the National League for Nursing Accrediting Commission, Inc. (NLNAC) located at 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; P: 404-975-5000, www.nlnac.org.

The Role of the Associate Degree Graduate within the Scope of Nursing Practice

The Nursing Program will provide the graduate with the knowledge and technical skills to practice in a safe, effective and competent manner within the legal and ethical framework for an entry-level Registered Nurse. The scope of practice for the Associate Degree graduate is to provide and manage care for a diverse group of individuals, families and communities in collaboration with members of the health care team consistent with the CT-CCNP core values.

Colleges that Offer CT-CCNP

CAPITAL COMMUNITY COLLEGE
Enrollment Services Office
950 Main Street
Hartford, Connecticut 06103
Phone: 860-906-5140
www.ccc.commnet.edu

GATEWAY COMMUNITY COLLEGE
Admissions Office
Attention: Nursing
20 Church Street
New Haven, Connecticut 06510
Phone: 203-285-2010
GatewayCT.edu

NAUGATUCK VALLEY COMMUNITY COLLEGE
Admissions Office
750 Chase Parkway
Waterbury, Connecticut 06708
Phone: 203-575-8040
www.nvcc.commnet.edu

NORWALK COMMUNITY COLLEGE
Admissions Office
188 Richards Avenue
Norwalk, Connecticut 06854-1655
Phone: 203-857-7060
www.ncc.commnet.edu

THREE RIVERS COMMUNITY COLLEGE
Nursing Admissions
574 New London Turnpike
Norwich, Connecticut 06360
Phone: 860-892-5702
www.trcc.commnet.edu

NORTHWESTERN COMMUNITY COLLEGE
Admissions Office
Park Place East
Winsted, CT 06098
Phone: 860-738-6300
www.nwcc.commnet.edu

Advisement

Advisors/Counselors are available at each college to guide applicants through the admission process. All potential applicants seeking admission to the CT-CCNP are encouraged to read through the Student Information Packet. After reading the packet, _students should direct all questions to the contact at their College of First Choice_. Students are strongly encouraged to attend a Nursing Information Session at their College of First Choice to learn more about the CT-CCNP. A listing of upcoming Information Sessions can be found at www.ct.edu/academics/nursing.

Below is a listing of the primary contacts at each college.

College	Contact	Information	General Information	LPN Advisement	Readmission/Transfer Info.
Capital CC	Mike Kriscenski	860-906-5040 mkriscenski@capitalcc.edu	X		X
Capital CC	Nancy Casey	86-906-5161 ncasey@capitalcc.edu		X	
Gateway	Mary Beth Banks	203-285-2388 mbanks@gatewayct.edu	X	X	X
Naugatuck Valley CC	Noreen Cerruto	203-575-8079 ncerruto@nv.edu	X		
Naugatuck Valley CC	Mary Manka	203-596-8675 mmanka@nv.edu		X	
Naugatuck Valley CC	Eileen George	203-596-8659 egeorge@nv.edu			X
Northwestern CC	Joanne Nardi or Rebecca Ozerhoski	860-738-6329 jnardi@nwcc.edu 860-738-6420 rozerhoski@nwcc.edu	X		X
Northwestern CC	Connie Hitchkiss	860-738-6372 chotchkiss@nwcc.edu		X	
Norwalk CC	Bill Chagnon	203-857-7090 wchagnon@norwalk.edu	X	X	X
Norwalk CC	Nursing & Allied Health Division	203-857-7121		X	X
Three Rivers CC	Brenna Jaskiewicz	860-892-5702 or 860-892-5778 nursingadmissions@threerivers.edu	X	X	X

Application Process

Applicants are required to complete a common nursing application. **The nursing application is only available online and can be accessed through Banner Self Service.** Applicants must have an eight-digit banner number (first eight digits of the NetID) in order to access the application. Applicants who do not have a banner number must first complete a general college application at their college of first choice and be accepted into that college before a banner number is issued.

The application period for the nursing program is November 1 - February 1 of each year. Applicants to the CT-CCNP must complete the online nursing application and submit all required documentation to the Admissions Office at the **College of First Choice** by the **February 1, 2014** deadline. **"College of First Choice"** is the college that the applicant would most like to attend.

Applicants may select a second choice college at the initial time of application. An applicant should only list the college(s) to which s/he would be willing to commute. (Please note: clinical sites could be within an hour radius of the college, and may require a mandatory parking fee.)

You do not need to wait for your fall course grades or TEAS results in order to submit your nursing application; however, all application materials (including all final official transcripts) must be sent to the Admissions Office at the College of First Choice and must be postmarked to the College of First Choice no later than February 1, 2014. *Late applications and transcripts will not be accepted.* All applications that are completed by the February 1 deadline will be reviewed; applicants will be notified prior to May 1 as to their admission status. ***Notification regarding admission into the program is done through Self Service.*** *No acceptance letters will be mailed.*

All initial communication with students will be done through the applicant's community college e-mail address. **Applicants that have not activated their community college e-mail should go to www.commnet.edu/netid/lookupnetid.asp for more information.**

Application Requirements

Students are required to submit the following by the **February 1, 2014 deadline**:

- General College application submitted to the college of first choice (*separate from the nursing program application*) with application fee of $20.00 for first-time applicants to any of the twelve Connecticut Community Colleges.

- Online CT-CCNP application

- Official high school transcripts* or high school diploma indicating date of graduation, General Education Development (GED) diploma, or State High School Equivalency diploma. If the applicant is using high school chemistry to satisfy the admission requirement, official high school transcripts are required.

- Official SAT I and/or ACT score reports, if applicable (see below for clarification).

- Official College/University transcripts from ALL colleges ever attended (*including all CT Community Colleges*), regardless of the age of the transcripts and applicability to the nursing program.*

- Official TEAS V results, if not taken at a CT Community College.

- Official AP, CLEP, DANTES and other military transcripts must be submitted if the applicant is using one of these tests to meet a specific admissions requirement. See page 10 for additional information.

- Proof of immunizations- consult with your college of first choice for current immunization requirements.

* All transcripts must be final transcripts. Students taking courses in the fall semester prior to applying must submit transcripts that include their fall grades. ***All transcripts (including those with course withdrawals, course failures, and remedial/developmental courses) must be submitted regardless of the age of the transcripts and applicability to the nursing program. This includes any college credits earned while in high school***.

Students who have attended or are currently attending one of the twelve Connecticut Community Colleges must submit community college transcripts *from all previously attended Connecticut Community Colleges* to the College of First Choice. No deadline extensions will be given to applicants who fail to submit required transcripts from the CT community colleges by the application deadline.

A student who has received a grade of failure (F) or unsatisfactory in the clinical component of any course in a health career program is not eligible for admission into the CT-CCNP. A "health career program" is defined as any nursing or allied health program whose curriculum has both a classroom and clinical component.

Admission Requirements

- Proof of High School completion.

- A score of 40 or higher on the College Level Math portion of the Accuplacer; OR SAT I Math score of 550 or higher; OR a score of 22 or higher on the ACT Math test; OR Connecticut Community College **MAT*136 or 137**, or equivalent or higher, **with a grade of C or higher**, completed prior to application deadline of February 1, 2014.

- One year of high school Chemistry with a lab or Connecticut Community College **CHE*111** or equivalent **with a grade of C or higher**, completed within five years prior+ to application deadline of <u>February 1, 2014</u>.

- A passing score on the computer proficiency test++ or completion of Connecticut Community College **CSA*105, CSA*106 or CSC*101** or equivalent, **with a grade of C or higher**, completed prior to application deadline of <u>February 1, 2014</u>.

- Connecticut Community College **ENG*101**: English Composition, or equivalent, **with a grade of C or higher**, completed prior to application deadline of <u>February 1, 2014</u>.

- Connecticut Community College **BIO*211**: Anatomy and Physiology I, or equivalent, **with a grade of C+ or higher**, completed within five years prior+ to application deadline of <u>February 1, 2014</u>.

- Connecticut Community College **BIO*212**: Anatomy and Physiology II, or equivalent, **with a grade of C+ or higher**, completed within five years prior+ to application deadline of <u>February 1, 2014</u> or completed during, but no later, than the spring semester of application year.

- **2.7 Nursing GPA** - based only on the college courses with grades that meet the nursing admission and nursing program curriculum requirements. The Nursing GPA is a calculation specific to CT-CCNP applicants and may differ from your college GPA. *(please note: if an applicant is using a course from a Fresh Start semester to meet a nursing admission or program curriculum requirement, that course will count in the calculation of the applicant's Nursing GPA.)*

- **TEAS V score**. Applicants must have **an adjusted individual total score of 53.3% or higher**, and must be submitted by <u>February 1, 2014</u>.

+ "Five years prior" is defined as having completed the course between December 2008 and February 1, 2014.

++ Please refer below for additional information on the **computer literacy** requirement.

There may be prerequisite courses that must be successfully completed prior to taking the admission requirements. Challenge exams may exist for certain admission requirements. Please consult with your College of First Choice for additional information. Students should complete the required Accuplacer computerized placement test. The placement test may be waived for students who have prior college English and/or mathematics credits.

<u>**Computer Literacy**</u>

Applicants must demonstrate computer literacy as an admissions requirement in one of the following ways:

1. Proficiency Exam- this is a comprehensive test designed for those who are very proficient in computers. If you question your skills, take the appropriate class or attempt the test early so you can register for the appropriate computer course if needed well in advance of the application deadline. Proficiency tests have limited scheduled times and are not given on a "on demand" basis. It is the responsibility of the applicant to contact the college of first choice for future scheduled times.

   It is also the applicant's responsibility to check with the college of first choice for the acceptability of a computer proficiency exam administered at another college. A final determination of acceptance will be made by the college of first choice.

2. Successful completion of CSA*105/CSA*106: Introduction to Software Applications or CSC*101: Introduction to Computers with a grade of C or higher.

<u>**TEAS V**</u>

The TEAS V is a multiple choice test that evaluates essential academic skills: math, science, reading, and English. It is recommended that applicants review biology, chemistry, and math content in preparation for taking the TEAS V. The test will take approximately 3 ½ hours to complete. Applicants can not reschedule their test date. Testing fees are non-refundable.

Applicants must obtain an adjusted individual total score of 53.3% or higher on the TEAS V to be considered for admission. *Scores from tests taken at one of the CT Community Colleges from February 5, 2011 to the present will be accepted.* **Applicants that have taken the TEAS V at another testing site prior to this date must provide proof that they have taken the correct version of the test.**

Applicants may retake the TEAS V as many times as desired. The CT-CCNP will use the applicant's highest TEAS V score when determining eligibility.

The TEAS V is administered at Capital, Gateway, Naugatuck Valley, Northwestern, Norwalk, and Three Rivers. If the TEAS V is taken at a site other than one of the Connecticut Community Colleges, applicants must have official results sent by ATI to the College of First Choice by the application deadline.

For testing schedules and registration information, go to www.atitesting.com/ctccteas. Applicants must have an account with ATI and select a CT-CCNP college as their institution of choice in order to register for the TEAS.

A study manual for the TEAS V is available through www.atitesting.com. Online practice tests are also available through ATI. For additional information about the TEAS V, please visit ATI's website at www.atitesting.com

GPA Calculation

The Nursing GPA is calculated by the Admissions Office at the College of First Choice. Nursing GPA is based only on the college courses with grades that meet the nursing admission and nursing program curriculum requirements. The three required science courses (BIO* 211, BIO* 212 & CHE* 111) must have been taken within the past five years (December 2008 - application deadline of February 1, 2014).

If an applicant is using a course from a Fresh Start semester to meet a nursing admission or program curriculum requirement, that course will count in the calculation of the applicant's Nursing GPA.

High School Chemistry will not be calculated in the Nursing GPA.

For a list of acceptable courses that will meet the CT-CCNP's humanities/fine arts elective requirement, please see www.ct.edu/files/pdfs/nursing-electives.pdf.

Repeat Courses

If a student repeats a course, the highest grade received will be used in calculating the student's Nursing GPA.

Formula for Computing Ranking

Eligible applicants who meet all of the application and admission requirements are assigned a rank number. Rank numbers are computed by the following formula:

> 25% = TEAS V score
>
> 25% = BIO*211 (Anatomy & Physiology I) grade
>
> 50% = Nursing GPA

Selection Process: Rank, Random, Waitlist

Rank Selection (75%):
All *eligible* applicants will be ranked by the CT-CCNP. Each college will fill **75%** of their seats by rank.

Random Selection (25%):
Common pool of remaining applicants will consist of all students who were eligible for the program, but were not selected through rank selection. Students will be placed on a list for their College of First Choice and will be selected for that college in random order until the college is full.

Applicants will be considered for random selection at their second choice college if that college has space that wasn't filled through its own random selection process. Once all colleges are filled, the remaining applicants will go onto a waitlist.

Waitlist:

Applicants on the waitlist will be ranked using their original CT-CCNP rank number. The waitlist will be divided into six separate lists based on the College of First Choice. When openings occur, applicants will be selected (in rank order) from the waitlist at that college and offered the nursing seat. Applicants who refuse an offer from their college of first choice will be removed from consideration for the current academic year.

In the event that a college's initial waitlist is exhausted, applicants choosing that college as their second choice will be rank ordered and offered spaces as they become available. An applicant can refuse the offer of a space at their College of Second Choice and go back onto the waitlist at their College of First Choice.

The waitlist will not carry over from year to year. Applicants who are not selected from the waitlist will need to submit a new application if they want to be considered for admission to the nursing program the following year. Students would need to contact the Admission Office at the **College of First Choice** to see what application information is still on file.

<u>**LPN Advanced Placement**</u>

The Connecticut Community College Nursing Program participates in the Connecticut League for Nursing Articulation Model for LPNs. To be eligible for articulation the LPN must:

- Hold a current Connecticut Licensed Practical Nurse license. You are not eligible for LPN Advanced Placement if your license is not in good standing or you do not hold a current LPN license.

- Satisfy all the CT-CCNP admission requirements.

- Submit a CT-CCNP application and be admitted to the program (**please note, the application process does not vary for LPN candidates**).

Once admitted, LPN candidates will be advised as to their placement within the CT-CCNP. For an LPN to begin the program in the third semester, the following requirements must be met:

- Complete the required general education courses of the first year of the CT-CCNP with a grade of C or higher (BIO*235, PSY*111, PSY*201 & SOC*101).

- Successfully complete the Connecticut LPN Transition Bridge Course at Charter Oak State College (COSC 190) and the college based CT-CCNP LPN transition course (NUR*130).

Students must attain a final grade of 80% (B-) in COSC 190 to be eligible to take CT-CCNP NUR* 130 and to qualify for advance placement into the third semester of the CT-CCNP (NUR* 201). Based upon course and space availability, students who are unsuccessful in one or both courses may retake the COSC 190 and/or CT-CCNP NUR* 130 when offered again to follow the LPN Advanced Placement route OR may be eligible to begin the program in NUR* 101. Students who are unsuccessful in either COSC NUR 190 or CT-CCNP NUR* 130 are not eligible for advanced placement into NUR* 201. **Space in NUR*101 may not be available at the college of first choice; the student must be willing to begin the nursing program at any of the six colleges with available space in NUR*101.**

<u>**External Transfer Nursing Applicants**</u>

External transfers will be considered on a space-available basis. An external nursing transfer applicant is defined as a student who has successfully completed one or more nursing courses within the last 18 months at a program outside of the Connecticut Community College system, and wishes to transfer in these courses for advanced placement. Students who wish to transfer nursing courses *with a clinical component* from another college or university will be considered for transfer after the following requirements have been met:

1. The applicant completes the CT-CCNP application for external transfers, and submits the application to the Admissions Office at the **college of first choice**. *Applicants must meet all nursing program admission requirements*. Completed applications are due by **July 1** for the fall semester, **January 2** for the spring semester and **May 1** for the summer semester. Applications can be downloaded from the CT-CCNP website: http://www.ct.edu/academics/nursing.

2. A written request for evaluation of nursing course work and nursing course descriptions must be submitted to the Admissions Office at the **college of first choice** along with the CT-CCNP application. Requests will be forwarded to the Nursing Director at the **college of first choice**. Written requests are due by **July 1** for fall semester requests, **January 2** for spring semester requests and **May 1** for summer semester requests.

3. External transfer candidates must have a **3.0 overall Nursing GPA**. The Nursing GPA is based only on the college courses with grades that meet the nursing admission and nursing program curriculum requirements. The Nursing GPA is a calculation specific to CT-CCNP applicants and may differ from your college GPA. (*please note: if an applicant is using a course from a Fresh Start semester to meet a nursing admission or program curriculum requirement, that course will count in the calculation of the applicant's Nursing GPA).*

External transfers will be considered on a space-available basis.

Transfer Credits

Transfer credit evaluations for nursing applicants are done by the College of First Choice upon request of the applicant. Twenty-five percent (25%) of the total credits applicable to the nursing degree must be granted by the college awarding the degree. No more than thirty credit hours of non-traditional credit may count towards the nursing degree. Non-traditional credit includes CLEP, DSST, Challenge Exams, Military Service Schools, and Assessment of Prior Learning.

In accordance with transfer of credit guidelines set forth by the Board of Regents, courses which meet nursing program requirements will be accepted by the CT-CCNP. Once an applicant earns credit at the College of First Choice, transfer credit for the same course from another college will not be granted.

Credits Earned Outside the United States – Transcripts need to be evaluated by the "Course By Course" option through the World Education Services Inc, PO Box 745, Old Chelsea Station, New York, New York 10113 or another approved site and submitted to the **College of first choice**. Contact the college of first choice for additional information.

Transfer Grades

Grades from colleges not regionally accredited will not be accepted in transfer. A minimum grade of C is required unless otherwise noted by the admission requirements.

A grade of C+ will be determined when the college does not use plus (+) and minus (-) by having the student be responsible for providing the proof that the grade is a C+. A numerical grade of 77-79 will be considered a C+.

Additional Information About Clinicals

Clinical experiences may be assigned during daytime, evening or weekend hours.

Clinical assignments in all courses are subject to change based upon availability of clinical sites and numbers in groups.

Clinical sites could be within an hour radius of the college and may require a mandatory parking fee.

Students must make their own travel arrangements during the program.

Students will receive a packet of information at the time of acceptance which outlines current college immunization policies.

Completed CT-CCNP Health Assessment Form (which document specific requirements for the nursing program) must be on file in accordance with college policy.

Miscellaneous Information

(*For Accepted Nursing Students*)

BASIC LIFE SUPPORT (BLS) CERTIFICATION

Students are required to provide documentation of current professional level certification in Basic Life Support for adult, child, and infant. Certification can only be earned through the American Heart Association or the American Red Cross and must remain current throughout the Program. Courses meeting this requirement are: The American Heart Association Basic Life Support (BLS) for Healthcare Providers **OR** The American Red Cross CPR/AED for the Professional Rescuer. A copy of the current certification card will be kept on file at the college which the student is attending. Failure to comply will result in exclusion from the clinical learning experience.

CLINICAL SITES

Clinical learning experiences are planned as an integral part of the nursing courses and are held at a variety of healthcare settings, such as hospitals, extended care facilities, and selected community health centers. Students are responsible for arranging their own transportation to and from assigned clinical sites. Clinical experiences may be assigned during daytime, evening, or weekend hours. Assignment of clinical sites is at the discretion of the nursing faculty. Clinical sites could be within an hour radius of the college, and may require a mandatory parking fee.

CRIMINAL BACKGROUND CHECKS

Some clinical learning sites require students to undergo a background check for felony convictions. Students who do not pass the background check may be excluded from the clinical site and may not be able to meet the competencies required for the program.

FELONY CONVICTION

At the time of application for RN licensure an applicant will be asked the following question by the Connecticut Department of Public Health: *"Have you ever been found guilty or convicted as a result of an act which constitutes a felony under the laws of this state, federal law or the laws of another jurisdiction and which, if committed within this state, would have constituted a felony under the laws of this state?* If your answer is "yes", give full details, dates, etc. on a separate notarized statement and furnish a Certified Court Copy (with court seal affixed) of the original complaint, the answer, the judgment, the settlement, and/or the disposition."

HEALTH REQUIREMENTS

Immunization Requirements - students will receive a packet of information describing current college policies.

CT-CCNP Health Assessment Form - completed forms (which document specific requirements for the nursing program) must be on file in accordance with college policy.

TECHNICAL STANDARDS

The RN student must be able to apply the knowledge and skills necessary to function in a broad variety of clinical situations. Technical standards reflect reasonable performance expectations of the RN student for the performance of common functions of the registered nurse. These requirements address capabilities in the areas of motor, sensory, communication, behavior and critical thinking abilities. **The technical standards** can be found at www.ct.edu/academics/nursing, under the heading "Program Overview".

WAIVER OF LICENSURE GUARANTEE

Upon successful completion of the Associate of Science degree with a major in Nursing, the graduate is eligible to take the National Council of State Boards of Nursing Licensure Examination for Registered Nurse (NCLEX-RN). Graduation from the CT-CCNP does not guarantee licensure to practice nursing. Licensure requirements and procedures are the responsibility of the Connecticut Department of Public Health, State Board of Examiners for Nursing. Permission to take the NCLEX-RN examination is established by law and granted by the Connecticut State Board of Examiners for Nursing.

PROGRAM OF STUDY

The following program of study reflects a full-time curriculum plan that students enrolled in the nursing program are required to complete for graduation. Many students make the decision to enroll in the nursing program on a part-time basis, taking the general education courses prior to the nursing courses. Non-nursing courses must be taken in the semester indicated in the plan of study below or may be taken earlier; nursing courses must be taken in the stated sequence.

The admission and pre-requisite requirements of BIO*211: Anatomy & Physiology I, BIO*212: Anatomy & Physiology II, and ENG*101: English Composition are credits (11 credits) that are part of the total 68 credits required for graduation. BIO*211 and ENG*101 must be completed prior to submitting an application; BIO*212 may be in progress and the applicant may be accepted pending successful completion with a grade of C+ or higher. Please refer to page 172 of this packet for a complete list of admission requirements.

A grade of **C** is required for all co-requisite courses in the nursing plan of study unless a higher grade is required for admission to the program. Co-requisite courses must be satisfactorily completed before or during the semester in which they are scheduled in the curriculum. Students who fail to complete required co-requisite courses may be dismissed from the program.

ADMISSION REQUIREMENTS	Credits		Credits
+BIO*211: Anatomy & Physiology I	4		
+ENG*101: English Composition	3		
PRE-REQUISITE REQUIREMENTS:			
+BIO*212: Anatomy & Physiology II	4		
FIRST SEMESTER		**SECOND SEMESTER**	
NUR*101: Introduction to Nursing Practice	8	NUR*102: Family Health Nursing	8
+BIO*235: Microbiology	4	NUR*103: Pharmacology for Families Across the Life Span	1
+PSY*111: General Psychology	3	+PSY*201: Life Span Development	3
		+SOC*101: Principles of Sociology	3
THIRD SEMESTER		**FOURTH SEMESTER**	
NUR*201: Nursing Care of Individuals and Families I	9	NUR*203: Nursing Care of Individuals and Families II	8
NUR*202: Pharmacology for Individuals and Families with Intermediate Health Care Need	1	NUR*204: Pharmacology for Individuals Families, & Groups with Complex Health Care Needs	1
+ENG*102: English Composition & Literature	3	NUR*205: Nursing Management and Trends	2
		+Elective: Humanities++ or Fine Arts	3

Total Program Credits - 68 credits (General Education Credits - 30 credits; Nursing Credits - 38 credits)
+ There may be a prerequisite course that must be successfully completed prior to taking the course.
++ Norwalk Community College requires one interdisciplinary course to fulfill core curriculum requirements

RETAIL MANAGEMENT/FASHION MERCHANDISING

Associate in Science

Retail and fashion are exciting and vital industries in our economy. This program prepares students for careers with retail, wholesale, and manufacturing organizations in buying, merchandising, fashion coordination, and sales promotion. Practical training is provided through internships. The program courses may be transferred to bachelor's degree programs. For more information, call the Program Coordinator, Rose Bednarz-Luglio, at (203) 285-2198 or e-mail at (rluglio@gatewayct.edu).

RETAIL MANAGEMENT/FASHION MERCHANDISING PROGRAM OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

Demonstrate a level of mathematical skill appropriate for employment in the retail and fashion industries

Read, understand, and prepare standard types of business communications

Understand the basic theory and practice of retail management and merchandising

Understand competition and its relationship to private enterprise

Explain the marketing concept for retailers and fashion manufacturers

Use the Internet and other data sources for business purposes, including research and marketing

Understand the importance of planning for retail and fashion organizations

Apply knowledge of computer applications for word processing and spreadsheet design

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
CSA* 135 +	Spreadsheet Applications	3
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
MAT* 137 ++	Intermediate Algebra	3
PSY* 111	General Psychology I	3
Elective	Humanities	3
Elective	Natural Science	3-4

 + Or another computer literacy course recommended by the academic advisor

++ Or another degree credit mathematics course recommended by the academic advisor

PROGRAM REQUIREMENTS

Course #	Title	Credits
ACC* 113	Principles of Financial Accounting	3
BBG* 210	Business Communication	3
BES* 218	Entrepreneurship	3
BMK* 103	Principles of Retailing	3
BMK* 215	Principles of eBusiness	3
BMK* 201	Principles of Marketing	3
BMG* 202	Principles of Management	3
BMK* 230	Advertising and Promotion	3
BMK* 242	Retail Buying	3
BMK* 255	Fashion Analysis	3
BMK* 257	Textiles	3
BMK* 295	Field Experience I	3
BMK* 296	Field Experience II	3
Total Credit Hours		**60-61**

RETAIL MANAGEMENT / FASHION MERCHANDISING

Certificate

This certificate offers a career option for students who already have a degree in another area and want to develop skills in retailing. The certificate is also for those who do not want to pursue a degree, but who wish to develop their retailing skills.

RETAIL MANAGEMENT / FASHION MERCHANDISING CERTIFICATE OUTCOMES

Upon successful completion of all program requirements, graduates should be able to:

- Understand the basic theory and practice of retail management and merchandising
- Understand competition and its relationship to private enterprise
- Explain the marketing concept for retailers and fashion manufacturers
- Understand the importance of planning to retail and fashion organizations
- Read, understand, and prepare standard types of business communications

PROGRAM REQUIREMENTS

Freshman Year – Fall Semester

Course #	Title	Credits
BMK* 103	Principles of Retailing	3
BMK* 230	Advertising and Promotion	3
BMK* 242	Retail Buying	3
BMK* 255	Fashion Analysis	3
	Total Semester Credit Hours	**12**

Freshman Year - Second Semester

Course #	Title	Credits
BES* 218	Entrepreneurship	3
BMK* 215	Principles of eBusiness	3
BMK* 257	Textiles	3
BMK* 295	Field Experience I	3
	Total Semester Credit Hours	**12**
	Total Credit Hours	**24**

SCIENCE

ENVIRONMENTAL SCIENCE AND TOXICOLOGY

Associate in Science

The Environmental Science and Toxicology program offers students a broad educational approach to the many careers available to them upon graduation. The explosive growth in the number of businesses in the environmental science and toxicology fields has resulted in a high demand for qualified technicians. Employment opportunities exist in such areas as field services, laboratory services, regulatory, fish, wildlife and natural resource management, information management systems (including Geographic Information Systems), pollution prevention, remediation, safety and health, solid and hazardous waste, water and wastewater, air pollution, and public health protection. For additional information, please contact Department Chairperson, R.E.Tremblay at (203) 285-2185 or e-mail at (rtremblay@ gatewayct.edu) or Counselor John Mullane at (203) 285-2095 or e-mail at (jmullane@gatewayct.edu).

ENVIRONMENTAL SCIENCE AND TOXICOLOGY PROGRAM OUTCOMES

Upon successful completion of this degree program, graduates should be able to:

- Understand contemporary environmental issues in the social sciences, humanities, and natural sciences
- Know federal, state, and local laws, regulations, and standards affecting environmental science, toxicology, and forensic science operations
- Apply concepts of chemistry, biology, physics, and mathematics to environmental science, toxicology, and forensic science
- Take and analyze for pollutants and toxins air, water, and soil samples in the field and in the laboratory
- Identify career opportunities in the environmental science, toxicology, and forensic science fields
- Summarize the basic concepts of public health and occupational health and safety
- Use computers for data processing, information management, and research in environmental science, toxicology, and forensic science
- Understand and apply basic concepts of effective oral and written communication and documentation
- Understand basic concepts of human relations and group dynamics
- Work effectively both individually and as a member of a group
- This program can be used to meet the recently upgraded requirements for wastewater treatment plant operator licensure by the CT Department of Health Services. Students interested in transferring to a four-year institution may do so through this program. Arrangements for transfer should be made before registering for the freshman year. For information, call Math/Science department chair, R.E. Tremblay at (203) 285-2185 or e-mail at (rtremblay@ gatewayct.edu) or Counselor John Mullane at (203) 285-2095 or e-mail at (jmullane@gatewayct.edu).

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
BIO* 105 or BIO* 121	Introduction to Biology General Biology I	4
CET* 116	Computer Applications for Technology	3
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
MAT* 115 or MAT* 175	Mathematics for Science and Technology College Algebra and Trigonometry	3
POL* 111	American Government	3
Elective	Fine Arts	3
Elective	Humanities	3
	Total Semester Credit Hours	**25**

PROGRAM REQUIREMENTS

Course #	Title	Credits
CHE* 111 or CHE* 121	Concepts of Chemistry General Chemistry I	4
EVS* 100	Introduction to Environmental Science	3
EVS* 200	Toxicology	3
EVS* 221	Qualitative and Quantitative Field and Lab. I	4
EVS* 222	Qualitative and Quantitative Field and Lab. II	4
EVS* 296	Internship	4
MAT* 167	Statistics with Technology	3
PHY* 121	General Physics I	4
Electives +	Directed	12
	Total Semester Credit Hours	**29**
	Total Credit Hours	**66**

Directed Electives:
See Advisor

ENVIRONMENTAL SCIENCE AND TOXICOLOGY

Certificate

The Environmental Science and Toxicology certificate prepares students for entry-level technician positions in the fields of environmental science, toxicology, and forensic science or to continue their studies beyond the certificate to receive a two- or four-year degree.

ENVIRONMENTAL SCIENCE AND TOXICOLOGY CERTIFICATE PROGRAM OUTCOMES

Upon completion of this certificate program, graduates should be able to:

- Know federal, state, and local laws, regulations, and standards affecting environmental science operations
- Apply chemistry, biology, physics, and mathematics to environmental science, toxicology, and forensic science
- Take and analyze for pollutants and toxins air, water, and soil samples in the field and in the laboratory
- Identify career options in the environmental science, toxicology, and forensic science fields
- Explain the basic concepts of public health and occupational health and safety

PROGRAM REQUIREMENTS

Course #	Title	Credits
BIO* 105	Introduction to Biology	4
CHE* 111	Concepts of Chemistry	4
MAT* 115	Mathematics for Science and Technology	3
EVS* 100	Introduction to Environmental Science	3
EVS* 221	Qualitative and Quantitative Field and Lab Anal. I	4
EVS* 200	Toxicology	3
EVS* 222	Qualitative and Quantitative Field and Lab Anal. II	4
Electives	Directed	3-4
Total Semester Credit Hours		**28-29**

NATURAL SCIENCES AND MATHEMATICS

Associate in Science

The Natural Sciences and Mathematics program prepares qualified students to work at research facilities as laboratory or research assistants and/or continue their studies in the sciences at a four-year institution. For more information, contact Mark Bruno at (203) 285-2353 or e-mail mbruno@gatewayct.edu.

NATURAL SCIENCES AND MATHEMATICS PROGRAM OUTCOMES

Upon successful completion of all requirements, graduates should be able to:

- Explain the methodology used in scientific research
- Recognize ethical issues and understand the social responsibility involved in scientific decision making
- Communicate both orally and in writing
- Prepare, conduct, document, and interpret scientific experiments using the laboratory manual as a legal document
- Understand the basic principles of the natural and physical sciences
- Understand the basic principles of algebra, trigonometry, and pre-calculus
- Create, compile, and run a computer program
- Incorporate an interdisciplinary approach to investigating scientific problems
- Generate research documents using the Internet

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
CHE* 121	General Chemistry I	4
COM* 171	Fundamentals of Human Communications	3
ENG* 101	Composition	3
MAT* 172 or MAT* 175	College Algebra or College Algebra & Trigonometry	3
Elective	Fine Arts	3
Elective	Humanities	3
Elective	Social Science	3
Elective	Computer Literacy	3
Total Semester Credit Hours		**25**

PROGRAM REQUIREMENTS - For Biology Majors

Course #	Title	Credits
BIO* 121 or BIO* 211	General Biology I or Anatomy & Physiology I	4
BIO* 122 or BIO 212	General Biology II or Anatomy & Physiology II	4
CHE* 122	General Chemistry II	4
MAT* 187	Precalculus Mathematics	3
MAT* 254	Calculus I	4
PHY* 121	General Physics I	4
PHY* 122	General Physics II	4
Electives +	Science or Math Directed	8-10
Total Semester Credit Hours		**35-37**
Total Credit Hours		**60-62**

PROGRAM REQUIREMENTS - For Chemistry, Physics, Math Majors

Course #	Title	Credits
CHE* 122	General Chemistry II	4
MAT* 187	Precalculus Mathematics	3
MAT* 254	Calculus I	4
MAT* 256	Calculus II	4
MAT* 268	Calculus III	4
PHY* 221	Calculus Based Physics I	4
PHY* 222	Calculus Based Physics II	4
Electives +	Science or Math Directed	8-10
	Total Semester Credit Hours	**35-37**
	Total Credit Hours	**60-62**

+ Directed Electives

Course #	Title	Credits
BIO* 105	Introduction to Biology	4
BIO* 115	Human Biology	4
BIO* 121	General Biology I	4
BIO* 122	General Biology II	4
BIO* 211	Anatomy & Physiology I	4
BIO* 212	Anatomy & Physiology II	4
BIO* 235	Microbiology	4
CET* 124	Structured Programming	4
CHE* 211	Organic Chemistry I	4
CHE* 212	Organic Chemistry II	4
EGR* 211	Statics	3
EVS* 100	Introduction to Environmental Science	3
MAT* 167	Principles of Statistics	3
MAT* 256	Calculus II	4
MAT* 268	Calculus III	4
MAT* 272	Linear Algebra	3
MAT* 285	Differential Equations	3
	Total Credit Hours	**60-62**

CLEAN WATER MANAGEMENT

Certificate

The Clean Water Management Certificate will train students to meet the skill and knowledge specifications required by higher level water pollution control facility operators in one of the more than 100 public and private plants in the state following the guidelines of the CT Department of Environmental Protection (DEP). The program will provide classroom and laboratory-based academic preparation for the Class I, II, III and IV Wastewater Treatment Plant Operator certification examinations administered by the DEP. Specialized wastewater courses may be offered at local municipal wastewater treatment plants. For more information, contact Paul Silberquit at (203) 285-2368 or e-mail at (psilberquit@gatewayct.edu).

Learning Outcomes:

• Working knowledge of wastewater treatment operations including preliminary, primary, secondary, tertiary, nutrient removal and disinfection treatment as well as the handling and disposal of sludge/biosolids;

• Working knowledge of the levels of treatment necessary to protect aquatic life and human health in Long Island Sound and other Connecticut surface waters and groundwaters;

• Working knowledge of the laboratory test methods necessary to ensure the proper operation of wastewater treatment plants, protect surface and groundwater quality as well as human health, and meet all state and federal regulatory and permit requirements;

• Knowledge to become eligible to take and pass the Class I, II, III or IV CT DEP Wastewater Treatment Plant Operator Certification Examinations.

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
CWM* 108	Chemistry, Biology & Mathematics of Clean Water	4
CWM* 110 or CWM* 112	Clean Water I or Clean Water II	3
ENV* 110	Environmental Regulations	3
Elective	CWM / ENV / EVS / WMT	3
	Total Semester Credit Hours	**13**

Freshman Year - Spring Semester

Course #	Title	Credits
CWM* 106	Introduction to Utility Management	3
CWM* 112 or CWM* 114	Clean Water II or Clean Water III	3
Elective +	CWM / ENV / EVS / WMT	3
Elective ++	Biology	4
	Total Semester Credit Hours	**13**
	Total Credit Hours	**26**

+ Pending CT DEP approval: CWM* 110, 112 and 114 are required for 90 CEUs recognition. To qualify for the CT DEP Class 3 license exam, EVS* 221 and 222 are recommended for the CWM/ENV/EVS/WMT electives which may require additional courses as prerequisites to be completed for EVS* 221 and 222.

++ Students planning to take EVS* 221 and 222 for CT DEP Class 3 certification are encouraged to take BIO* 121 as the Biology elective.

WASTEWATER MANAGEMENT

The Wastewater Management Certificate is not available for <u>new</u> students. The program has been replaced by the Clean Water Management Certificate.

The Wastewater Management Certificate prepares students to sit for the Wastewater I and Wastewater II Operator certification examination. The program has been designed in cooperation with the Connecticut Department of Environmental Protection and the Connecticut Water Pollution Abatement Association. Specialized wastewater courses may be offered at local municipal wastewater treatment plants. For more information, call Paul Silberquit at (203) 285-2368 or e-mail at (psilberquit@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
BIO* 105	Introduction to Biology	4
CET* 116	Computer Applications for Technology	3
MAT* 175	College Algebra and Trigonometry	3
WWT* 110	Wastewater I	3
WWT* 112	Wastewater II	3
	Total Semester Credit Hours	**16**

Freshman Year - Spring Semester

Course #	Title	Credits
CHE* 111	Concepts of Chemistry	4
ENG* 101	Composition	3
WWT* 114	Wastewater III	3
WWT* 116	Wastewater IV	3
	Total Semester Credit Hours	**13**
	Total Credit Hours	**29**

ADVANCED WASTEWATER MANAGEMENT

Certificate

The Wastewater Management Certificate is not available for <u>new</u> students. The program has been replaced by the Clean Water Management Certificate.

The Advanced Wastewater Management Certificate prepares students for certification as Wastewater III and Wastewater IV Operators. The program has been designed in cooperation with the Connecticut Department of Environmental Protection and the Connecticut Water Pollution Abatement Association. Specialized courses may be offered at local Municipal Wastewater Treatment Plants. For more information, contact Paul Silberquit at (203) 285-2368 or e-mail at (psilberquit@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
EET* 103	Fundamentals of Electricity	4
ENV* 230	Environmental Engineering	3
MAT* 187	Precalculus Mathematics	3
PSY* 111	General Psychology I	3
WWT* 210	Advanced Wastewater I	3
	Total Semester Credit Hours	**16**

Freshman Year - Spring Semester

Course #	Title	Credits
WWT* 212	Advanced Wastewater II	3
WWT* 216	Environmental Law	3
Electives +	Directed	6
	Total Semester Credit Hours	**12**
	Total Credit Hours	**28**

SOLAR TECHNOLOGY

Certificate

The Solar Technology Certificate will teach students operational skills and will impart a basic understanding of photovoltaic (solar electric), solar thermal (water/air/heating/effects of wind), and passive solar equipment, including course work in electricity and electronics. Contextualized instruction in related academic math and computer skills will enable program graduates to compare and contrast, estimate the costs, evaluate performance, and understand the overall effectiveness of various types of solar installations. Successful graduates will be eligible for the North American Board of Certified Energy Practitioners (NABCEP) PV Entry-Level Exam. For information, please contact Paul Silberquit at 203-285-2368 or e-mail psilberquit@gatewayct.edu.

Learning Outcomes:

• Working knowledge of the benefits and limitations of a solar energy system and conducting an economic assessment of its return on investment;

• Basic understanding of state and federal regulations and permit requirements in the energy stystems field;

• Understanding of the importance of safety in an energy system environment;

• Knowledge of solar technology field to become eligible for the NABCEP entry-level "Certificate of Knowledge" exam

• Knowledge of solar electrical work to become eligible for the Connecticut Solar PV licensing exams (PV-1, PV-2);

• Knowledge of solar electrical work to become eligible for the Connecticut Solar Thermal licensing exams (ST-1, ST-2)

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
EET* 110	Electric Circuits I	4
ENV* 100	Introduction to Alternative Energy Sources	3
ENV* 181	Solar Thermal Systems	3
MEC* 234	Electromechanical Controls	4
	Total Semester Credit Hours	**14**

Freshman Year - Spring Semester

Course #	Title	Credits
CAD* 126	Electronics Graphics/CAD	3
CET* 116	Computer Applications for Technology	3
EET* 136	Electronics I	4
ENV* 182	Solar PV Systems I	3
	Total Semester Credit Hours	**13**
	Total Credit Hours	**26**

WATER MANAGEMENT

Certificate

The Water Management Certificate covers the operation of water treatment plants from both ground and surface water sources as well as the water distribution systems that deliver the treated water to customers. It assures an adequate supply of water for domestic, commercial, industrial, and public use. Two main areas of water management are water treatment and water distribution. Connecticut continually needs qualified individuals in the water treatment and distribution areas to fill positions in the increasing number of plants. Requirements for advanced certification to qualify for such positions presently include formal course work. Gateway's Water Management Certificate program offers a sequence of courses to prepare students for the Connecticut Department of Health certification examinations. For more information, contact Paul Silberquit at (203) 285-2368 or e-mail at (psilberquit@gatewayct.edu).

Successful completion of the program provides the necessary education requirements to take the CT Department of Public Health's highest class water industry license examinations (Class IV Water Treatment and Class III Distribution. If successful, graduates are licensed as Operators-in-Training; OIT licenses become full licenses after work experience requirements are met. CT DPH licenses are recognized by most other states.

PROGRAM REQUIREMENTS

Freshman Year - Fall Semester

Course #	Title	Credits
WMT* 101	Water Treatment and Distribution	6
WMT* 106	Introduction to Utility Management	3
	Total Semester Credit Hours	**9**

Freshman Year - Spring Semester

Course #	Title	Credits
ENV* 110	Environmental Regulations	3
WMT* 102 or WMT* 103	Special Topics in Water Treatment * Special Topics in Water Distribution *	3
	Total Semester Credit Hours	**6**
	Total Credit Hours	**15**

* If both the CT DPH Class IV Water Treatment and Class III Water Distribution Operator-in-Training Examinations are to be taken, it is highly recommended that both of these classes be taken.

FIRE TECHNOLOGY AND ADMINISTRATION

Associate in Science

The program in Fire Technology and Administration trains and educates competent leaders in fire protection, prevention, and administration. It also provides training and education for insurance companies and industries involved in fire prevention and protection.

Fire technologists work in career and volunteer fire departments; local, state, and federal government agencies; industry, architectural and construction firms, and insurance organizations. They must recognize the need for fire prevention activities, the necessity of educating both children and adults in fire safety, and the importance of enforcing fire prevention codes.

Because fire technologists encounter a broad spectrum of problems and must be well versed in many subjects, the work of the fire technologist is seldom routine. The effective fire technologist continually improves the world in which we live by making it a safer place and by reducing the misery caused by uncontrolled fire.

The Associate in Science degree in Fire Technology and Administration helps students meet the professional standards established by the National Fire Protection Association, the Connecticut Commission on Fire Prevention and Control, and the Connecticut Fire Marshal's Training Council. For more information call Paul Silberquit at (203) 285-2368 or e-mail at (psilberquit@gatewayct.edu).

PROGRAM REQUIREMENTS

Freshman Year - Fall Semeste

Course #	Title	Credits
CET* 116	Computer Applications for Technology	3
ENG* 101	Composition	3
FTA* 112	Introduction to Fire Technology	3
MAT* 137	Intermediate Algebra	3
	Total Semester Credit Hours	**12**

Freshman Year - Spring Semester

Course #	Title	Credits
FTA* 116	Building Construction	3
FTA* 118	Fire Prevention and Inspection	3
MAT* 175	College Algebra and Trigonometry	3
PHY*121	General Physics I	4
Elective	Humanities (Restricted)+	3
	Total Semester Credit Hours	**16**

Sophomore Year - Fall Semester

Course #	Title	Credits
CHE* 111	Concepts of Chemistry	4
COM* 171	Fundamentals of Human Communication	3
FTA* 210	Water Supply and Hydraulics	3
FTA* 213	Codes and Standards	3
PHY* 122	General Physics II	4
	Total Semester Credit Hours	**17**

Sophomore Year - Spring Semester

Course #	Title	Credits
FTA* 216	Municipal Fire Administration	3
FTA* 218	Extinguishing Systems	3
FTA* 219	Fire Investigation	3
Elective	Fine Arts	3
Elective	Social Science	3
	Total Semester Credit Hours	**15**
	Total Credit Hours	**60**

+ Restricted Humanities Electives: ENG* 102, ENG* 200, or ENG* 202

COURSE DESCRIPTIONS

Courses with an asterisk (*) have been converted to the Community College System Common Course Numbers. For your information, former course numbers are listed after the title.

❖❖❖* 298 Special Topics Courses   **1–6 S.H.**
Provides students the opportunity to enroll in courses that address a specific need or demand within a particular discipline. For specific course content, please consult the semester course schedule. Special Topics courses may not be used to meet program requirements; however, they do carry elective credit in the specific discipline or as a general elective. A Special Topics course may or may not be transferable to other institutions. Students should seek the consent of their faculty advisor prior to selecting a Special Topics course. Prerequisites: Please consult semester course schedule.

ACCOUNTING

ACC* 113 Principles of Financial Accounting I (ACC 101)   **3 S.H.**
Provides a solid background in the theory of accounting practices and business procedures. Students will learn to interpret assets, liabilities, and net worth and prepare statements, books of original entry, ledgers, and work at the end of a fiscal period.

ACC* 114 Principles of Financial Accounting II (ACC 102)   **3 S.H.**
A continuation of ACC* 113. Presents fundamental accounting theory for partnerships and corporations. Additional topics include the preparation of cash flow statements and financial statement analysis. Prerequisite: ACC* 113.

ACC* 117 Principles of Managerial Accounting (ACC 110)   **3 S.H.**
Presents basic concepts and practice of accounting's role in providing information to managers to assist in planning, control, and decision making. Topics include cost accounting systems, cost behavior relationships, analysis for managerial decisions, and the budget process. Prerequisite: ACC* 113.

ACC* 125 Accounting Computer Application I (ACC 106)   **3 S.H.**
Use accounting software to complete the accounting cycle. Topics include cash receipts, cash disbursements, accounts receivable, accounts payable, and payroll taxes. Various software packages will be presented, but emphasis will be on Quickbooks. Prerequisites: ACC* 113 or BOT* 165.

ACC* 241 Federal Taxes I (ACC 206)   **3 S.H.**
Interprets and applies laws in preparing federal income tax returns for individuals. Prerequisite: ACC* 113.

ALLIED HEALTH

HLT* 103 Investigations in Health Care   **3 S.H.**
Designed to assist students in meeting the expectations of a health care curriculum and career. Students will become familiar with rigors of higher education and the specific skills needed to maximize their opportunity for academic and clinical success. Will include a comprehensive overview of the duties and responsibilities associated with clinical competency. Interdisciplinary learning strategies, correlating clinical and didactic education, life management skills, work ethics and critical thinking skills necessary for all health providers will be emphasized.
Prerequisites: Eligibility for ENG* 101 and MAT* 115 or higher.

HLT* 107 Methods of Learning in a Clinical Curriculum   **3 S.H.**
Designed to assist traditional and non-traditional first year college students to meet the expectations of a curriculum in health related fields. The intent is to familiarize the students with the rigors of higher education and to provide specific skills which will maximize the students' opportunity for academic and clinical success. The course will include a comprehensive overview of the duties and responsibilities associated with clinical education and clinical competency. Interdisciplinary learning strategies, correlating clinical and didactic education, life management skills, work ethics and critical thinking skills so critical for all health care providers will be emphasized. This course is a required pre-requisite for all students wishing to enter the Pre-Dental Hygiene Program. Participation in field work and classroom visits are required.

ANTHROPOLOGY

ANT* 105 Introduction to Cultural Anthropology (ANT 105)　　　　　3 S.H.
Teaches the evolution of culture from its earliest state to the present, emphasizing an analysis of living non-Western cultures. An understanding of such aspects of social organization as religion, economics, political organization, language, kinship, and art are stressed. This course also presents a comparison of cultures and draws inferences to promote a better understanding of our own way of life.

ARCHITECTURE

ARC* 133 Technical Drafting (DFT 110)　　　　　3 S.H.
Introduces the principles of engineering drawing. Covers the use of drafting instruments, good lettering practices, geometric construction, orthographic projection, sectional and auxiliary views, surface developments, machine screw threads, dimensioning, fits, and tolerances. Introduces geometric dimensioning and tolerancing. Two hours of lecture / two hours of laboratory.

ART

ART* 101 Art History I (ART 103)　　　　　3 S.H.
Surveys art and architecture from prehistoric times through the Middle Ages. Presents art as a fundamental aspect of human existence during a wide range of periods and cultures. Includes the art of indigenous cultures in Africa and the Americas, as well as the art of the ancient world. Emphasizes history and formal appreciation of art through the use of text, slides, reproductions, and original works. Requires museum trips.

ART* 102 Art History II (ART 104)　　　　　3 S.H.
Surveys art and architecture from the Renaissance to the late nineteenth century. Surveys the Renaissance in Italy and Northern Europe and the Baroque, Rococo, Romantic, Impressionist, and Post-Impressionist periods. Emphasizes history and formal appreciation of art through the use of text, slides, reproductions, and original works. Requires museum trips.

ART* 103 Art History III (ART 102)　　　　　3 S.H.
Surveys modern and contemporary art and architecture from the mid nineteenth century to the present. Emphasizes history, issues, and formal appreciation of art through the use of text, slides, reproductions, and original works. Requires museum and gallery visits. Prerequisite: ART* 101 or 102.

ART* 107 Introduction to Studio Art (ART 200)　　　　　3 S.H.
Introduces a wide range of studio activities. Teaches students to understand their creative abilities and develop an intellectual understanding of techniques, materials and approaches to various media in studio art. Requires museum and gallery trips. (6 studio hours)

ART* 109 Color Theory (ART 212)　　　　　3 S.H.
Studies the interaction of color. Works with collage and paints to formulate presentations ranging from fundamental problem solving to individual expression. Emphasizes the use of color and its properties. Requires field trips and outside assignments. (6 studio hours)

ART* 111 Drawing I (ART 201)　　　　　3 S.H.
Introduces traditional drawing materials and techniques and examines drawing, composition, design, and modes of expression. Students work with a variety of subjects, including still life, interior, landscape, and human form. Requires sketchbook, outside assignments, and museum visits. (6 studio hours)

ART* 112 Drawing II (ART 202)　　　　　3 S.H.
Expands the fundamentals of drawing acquired in Drawing I. Focuses on the structure and development of drawing as a form of artistic expression. Requires figure drawing, sketchbook, outside assignments, and museum trips. Prerequisite: ART* 111 or instructor's permission. (6 studio hours)

ART* 113 Figure Drawing I (ART 203)　　　　　3 S.H.
Applies the knowledge acquired in Drawing I and II. Concentrates on traditional and contemporary approaches to the representation of the figure. Focuses on the costumed and nude figure as well as portraiture. Requires outside assignments and museum trips. (6 studio hours) Prerequisite: ART* 111 or instructor's permission.

ART* 121 Two Dimensional Design (ART 211)   **3 S.H.**
Investigates elements and principles of two-dimensional design and the nature of design. Explores space, shape, color, line, texture, and value, beginning with simple relationships and building toward more complex systems of composition. Requires outside assignments and museum visits. (6 studio hours)

ART* 122 Three Dimensional Design (ART 210)   **3 S.H.**
Investigates the elements and principles of three-dimensional design, emphasizing forms and spatial organization. Studies the various types of three-dimensional forms found in both art and nature. Explores the use of various materials, tools, and techniques used to create three-dimensional forms. Requires outside assignments and museum visits. (6 studio hours)

ART* 131 Sculpture I (ART 204)   **3 S.H.**
Introduces ideas and materials that facilitate student response to three-dimensional forms. Stresses the concepts of modeling, carving, construction, portrait sculpture, and the possibilities of more contemporary modes of expression. Requires museum and gallery visits. (6 studio hours)

ART* 132 Sculpture II (ART 205)   **3 S.H.**
Sculpture II builds on Sculpture I by presenting more challenging work. Applies knowledge acquired in Sculpture I and concentrates on traditional and contemporary approaches to the representation of the human form. Requires outside assignments and museum visits. (6 studio hours) Prerequisite: ART* 131 or instructor's permission.

ART* 141 Photography I (ART 130)   **3 S.H.**
Explores the fundamentals of still photography and processing, basic camera techniques, and dark room procedures. The course emphasizes examining photographic images and making pictures. Picture-making assignments cover camera operation and stress making deliberate artistic choices during picture taking. Most picture taking will be done outside of class time. Lab instruction will include black and white darkroom techniques, workshops, and demonstrations. Students are required to supply their own 35 mm SLR camera. (6 studio hours)

ART* 142 Photography II (ART 131)   **3 S.H.**
Builds on skills learned in Photography I by applying those skills to more challenging work. This is primarily a black and white photography course with an introduction to color. Combines picture-taking projects and darkroom printing techniques with the study of artistic photography. Includes lectures with slides and text. Requires outside assignments. Students are required to supply their own 35 mm SLR camera. (6 studio hours) Prerequisite: ART* 141 or instructor's permission.

ART* 151 Painting I (ART 213)   **3 S.H.**
Introduces basic oil painting methods and procedures. Emphasizes composition, paint handling, and color. Explores still life, interior scenes, and landscape in both group and individual projects. Includes study of master works from various periods. Requires outside assignments and museum visits. (6 studio hours)

ART* 152 Painting II (ART 214)   **3 S.H.**
Builds on knowledge acquired in Painting I by presenting more challenging work. Encourages the pursuit of individual expression by stressing a painting sequence that works toward a personal statement. (6 studio hours) Prerequisite: ART* 151.

ART* 167 Printmaking I (ART 220)   **3 S.H.**
An introductory studio course in the methods and materials of printmaking: etching, woodblock printing, linoleum printing, collagraph, monotype, and photo-transfer. The basic elements of art will be articulated through these printmaking methods. Prerequisites: ART* 111 and ART* 121.

ART* 176 Digital Video Art I (Film Making)   **3 S.H.**
Investigates digital video as an extension of the fine arts. Formal attributes which make up the language of video including time, sound, content, and composition will be investigated as tools of expression and devices for creating meaning. Basic production techniques such as story boarding, cinematography, lighting, and editing will be acquired through creative problem solving. Through both a survey of historical and contemporary video art and in responding to collective and individual assignments, students will become critically observant and sensitive to video as a time-based medium. Digital video art's relationship to fine arts as well as to other media is covered.

ART* 204 History of Women in the Arts (ART 105)   **3 S.H.**
Surveys the lives and works of major women artists in Western Europe, America, Latin America, and the Caribbean from 1600 to present. Examines biographical and artistic aspects through the analysis of social, economic, historical, political, and educational factors that have affected women artists and their works. Requires museum and gallery trips. Prerequisite: ART* 101 or 102.

ART* 251 Painting III (ART 215)   **3 S.H.**
Applies knowledge acquired in Painting I and II. Concentrates on traditional and contemporary approaches to the representation of the figure. Focuses on the nude and costumed figure and portraiture. Requires outside assignments and museum visits. (6 studio hours) Prerequisite: ART* 151 or instructor's permission.

ART* 293 Internship in Art I   **3 S.H.**
Provides students with the opportunity to gain "real-life" experience in Studio Art/Graphic Design. The student is required to work 120 hours during the semester. Hours will be arranged by mutual consent of the student and the supervisor.

ART* 299 Independent Study (ART 291)   **3 S.H.**
Provides the opportunity to pursue, with greater depth, individual studio or research projects. Must be arranged in the semester prior to registration. Requires advance departmental approval and supervision by the art instructor. Prerequisites: Instructor's permission and sophomore standing.

ALTERNATIVE FUEL

AFV* 110 Introduction to Clean Energy   **3.5 S.H.**
Provides a broad spectrum of information about clean and renewable fuels and modern energy storage technology. Laws, incentives, and sustainability issues are covered for all fuel/technology types. Current events and developments in the industry are discussed in open forums as well as the global environmental and economic impact of alternative energy as it relates to current petroleum oil-based energy trade and usage. Three hours lecture/one hour lab.

AFV* 120 Power Transmission   **3.5 S.H.**
Provides information about the basic building blocks for machinery, contextualized to Alternative Fueled Vehicles. Mechanisms for mechanical power transmission such as gears; levers; sprockets; chains; couplers; electric motors; heat engines; electrical systems; hydraulics; pneumatics and control systems are covered. Three hours lecture; one hour lab.

AFV* 130 Electric and Hybrid Vehicle Drive Systems I   **3.5 S.H.**
Introduces the systems used in electric and hybrid vehicles and introductory information about hydraulic hybrid drive systems/vehicles. Examples are modern hybrid-electric automobiles; pure electric battery powered vehicles; plug-in (electric grid recharge) hybrid vehicles; hydrogen hybrid fuel cell powered vehicles; and hydraulic hybrid light and medium duty vehicles. Battery and accumulator storage technology; electric motor design; hybrid inverter components and driveline support systems are covered. Discussions about future technology; issues; sustainability; laws and incentives are included. High voltage electric and high pressure hydraulic system safety are covered as well as precautions for performing basic service on a hybrid vehicle. Two hours lecture/three hours lab.

AFV* 140 Gaseous and Liquid Fuels I   **3.5 S.H.**
Focuses on the storage of gaseous hydrogen, natural gas (methane) and hydrocarbon fuels. Topics covered include instruction on compressed gaseous fuel storage systems, fueling systems, fuel delivery systems, and high pressure gaseous fuel safety. Issues concerning laws, emissions, regulation and incentives are discussed. The nature of different hydrocarbon fuels' BTU content, volatility, flash point and volumetric/gravimetric energy as they relate to liquid hydrocarbon fuels is discussed as well as sustainability and renew-ability issues. Identification and operation of key system components is covered as well as leak detection and other safety measures. Two hours lecture/three hours lab.

AFV* 150 Internship I   **3 S.H.**
Student participate in seven weeks (300 hours) per one semester of practical training at a dealership or garage to provide experience in an automotive repair environment geared toward alternative energy transportation.

AFV* 238 Hybrid Vehicle   **3 S.H.**
Introduces the student to the basic concepts, designs and nomenclatures associated with hybrid vehicles. It covers procedures for servicing and repairing hybrid vehicles, along with how to safely address these areas while adhering to specific manufacturer's repair guidelines. Two hours lecture/two hours laboratory.

AFV* 240 CNG Installation, and Maintenance (AUT 240)   **4 S.H.**
Introduces procedures associated with compressed natural gas vehicles. Covers installation of natural gas components, fuel systems, and emission control devices. Includes maintenance procedures for needed repairs, inspection of emission control devices, and fuel storage and delivery systems. Two hours of lecture / four hours of laboratory.

AFV*250 Internship I   3 S.H.
Students participate in seven weeks or 300 hours of practical training at a dealership or garage to provide experience in an automotive repair environment geared toward alternative energy transporation.

AFV* 244 Electric Fuel (AUT 244)   4 S.H.
Presents theories and operating principles of an electric engine as the power plant of an electric vehicle (EV). Includes the procedures to be followed in removing or bypassing the piston engine and the installation of an electric engine and all related components. This conversion creates an EV or a hybrid vehicle of mixed power plants. Four hours of lecture.

AFV* 246 CNG Diagnosis and Repair (AUT 246)   4 S.H.
Presents theories and principles of a natural gas engine as the power plant of a vehicle. Analyzes natural gas vehicle systems and the performance of diagnostic and repair procedures of natural gas components, supplemental systems, and fuel storage and delivery including an overview of current alternative fuel technologies. Two hours of lecture / four hours of laboratory.

AUTOMOTIVE

AUT* 110 GM Engine Repair (AUT 110)   3 S.H.
Focuses on basic engine theory, nomenclature, and skills necessary to service and repair current model year General Motors engines. Upon completion of the course, students should be able to identify engine problems and make repairs to return an automobile to satisfactory operating condition. One hour of lecture / four hours of laboratory.

AUT* 112 GM Specifications (AUT 112)   2. S.H.
Includes the selection, use, and care of specialized shop tools and manuals. Describes the many manipulation skills needed in simple mechanical operation. The course is designed for students with no previous experience as well as for advanced students who desire further knowledge. Four hours of laboratory.

AUT* 114 GM Electrical Systems (AUT 114)   3.5 S.H.
Presents basic electrical theory, nomenclature, and the skills necessary to service and repair General Motors electrical components. Upon completion of the course, students will have studied the most up-to-date electronic systems and should be able to identify and explain the electron theory, series and parallel circuits, battery construction and operation, starter construction and operation, alternator construction and operation, and voltage regulators; and test and/or repair generators, alternators, starters, and voltage regulators. Two hours of lecture / three hours of laboratory.

AUT* 116 GM Suspension and Steering (AUT 116)   3 S.H.
Enables the student to study and understand the diagnosis and repair of General Motors steering and suspension systems, including wheel alignment. Provides a thorough knowledge of wheel and tire problems and repair. One hour of lecture / four hours of laboratory.

AUT* 118 GM Brakes (AUT 118)   3.5 S.H.
Covers the theory, diagnosis, and repair procedures for General Motors hydraulic systems, drum and disc brakes, and power assist units. Two hours of lecture / three hours of laboratory.

AUT* 130 Engines   3 S.H.
Focuses on basic engine and nomenclature as well as the skills necessary to service and repair current engines. One hour of lecture/four hours of lab. Co-requisite: AUT* 132.

AUT* 132 Automotive Specifications   2 S.H.
Includes the selection, use, and care of specialized shop tools and manuals. Describes the many manipulative skills needed in simple mechanical operation. The course is directed primarily at the student who desires basic knowledge in automotive technology. Four hours of lab.

AUT* 134 Electrical Systems   3.5 S.H.
Presents basic electrical theory and nomenclature, as well as the skills necessary to repair automotive electrical components. Upon completion, the student will have studied the most updated electronic systems. The student will become familiar with electrical circuits, alternators, starters, batteries and all automotive electrical components. Two hours of lecture/three hours of lab.

AUT* 136 Frames and Suspension   3 S.H.
Enables students to study and better understand the diagnosis and repair of steering and suspension systems including alignment. Includes a thorough presentation of wheel and tire problems and how to repair them. One hour of lecture/ four hours of lab.

AUT* 138 Brakes   **3.5 S.H.**
Covers theory, diagnosis, and repair procedures for all automotive hydraulic brake systems. This covers all types of disc and drum brakes and repair procedures. Three hours of lecture/two hours of lab.

AUT* 140 Honda Engine Repair   **3.5 S.H.**
Utilizing both theory and practice, this course will cover the automotive engine and its' subsystems. Also, the skills necessary to service and repair current engines. Upon completion, the student should be able to diagnose engine problems and repair them properly. Two hours lecture/three hours lab.

AUT* 141 Honda Express Service   **2 S.H.**
Provides the student with fundamentals of operation and maintenance procedures including researching vehicle service information. Students will learn basic automotive shop safety, tool and equipment use. Upon completion of the course, students should be able to safely and accurately perform Honda's A1-B1 vehicle inspection anc maintenance service with efficiency and 100% accuracy. One hour lecture/two hours lab.

AUT* 144 Honda Electrical/Electronic Systems   **3.5 S.H.**
Utilizing both theory and practice, this course will cover automotive electrical and electronic systems. Upon completion, the student will have studied the most updated electronic systems and be familiar with electrical c ircuits, alternators, starters, batteries, and all automotive electrical components. Theory, operation, diagnosis, and repair procedures will be covered. Emphasizes lecture and related laboratory experiences in the diagnosis and service of automotive electrical systems and their components. Two hours lecture/three hours lab.

AUT* 146 Honda Suspension and Steering Systems   **3.5 S.H.**
Utilizing both theory and practice, this course will cover the diagnosis and repair of automotive steering and suspension systems including alignment. Includes a complete presentation of automotive wheel and tire problems and how to repair them. Theory, operation, diagnosis, and repair procedures will be covered. Two hours lecture/three hours lab.

AUT* 148 Honda Brake Systems   **3.5 S.H.**
Utilizing both theory and practice, this course will cover all automotive hydraulic brake systems, disc and drum brakes and repair procedures. Modern traction control and stability control systems will be explored. Theory, operation, diagnosis, and repair procedures will be covered. Two hours lecture/three hours lab.

AUT* 151 Honda Maintenance and Light Repair I   **3.5 S.H.**
Covers the fundamental automotive work environment. Safety, proper tool and equipment usage will be emphasized. Information acquisition, preparing vehicle for service and preparing vehicle for the customer will be presented. Theory, operation, diagnosis, and repair procedures will be included. Two hours of lecture / three hours of laboratory.

AUT* 152 Honda Maintenance and Light Repair II   **3.5 S.H.**
Covers the express/accelerated services tasks. Theory, operation, diagnosis, and repair procedures will be covered. Theory, operation, diagnosis, and repair procedures will be included. Two hours of lecture / three hours of laboratory.

AUT* 153 Honda Maintenance and Light Repair III   **3.5 S.H.**
Covers automotive systems light repair tasks. Theory, operation, diagnosis, and repair procedures including electrical systems and their components. Two hours of lecture / three hours of laboratory.

AUT* 154 Honda Maintenance and Light Repair IV   **3.5 S.H.**
Covers basic electrical and engine performance systems. Students will become familiar with electrical circuits, alternators, starters, batteries, and all automotive electrical components. Two hours of lecture / three hours of laboratory.

AUT* 160 Internship I (AUT 160)   **1 S.H.**
Students participate in a fifteen-hour course to review basic automotive training and to complete all paper work for the ten-week summer dealer internship. Prerequisite: Completion of Semester I courses.

AUT* 161 GM Internship 1A   **1 S.H.**
Students participate in three weeks of practical training at either a GM dealership or AC Delco repair facility during their freshman fall semester. Students will reinforce automotive skills and theory acquired during the freshman fall semester. All automotive students are required to attend an Internship Orientation session prior to starting their internship.

AUT* 162 GM Internship 1B   **1 S.H.**
Students participate in four weeks of practical training at either a GM dealership or AC Delco repair facility during their freshman winter intersession. Students will reinforce automotive skills and theory acquired during the freshman fall semester. All automotive students are required to attend an Internship Orientation session prior to starting their internship.

AUT* 163 GM Internship 1C   **1 S.H.**
Students participate in three weeks of practical training at either a GM dealership or AC Delco repair facility during their freshman winter intersession. Students will reinforce automotive skills and theory acquired during the freshman fall semester. All automotive students are required to attend an Internship Orientation session prior to starting their internship.

AUT* 170 Internship II (AUT 170)   **4 S.H.**
Students participate in a ten-week practical training (400 hours) at a dealership or garage. All automotive students are required to attend an Internship Orientation session prior to starting their internship. Prerequisite: Completion of Semester I courses.

AUT* 171 GM Internship 2   **3 S.H.**
Students participate in ten weeks of practical training (400 hours) at either a GM dealership or AC Delco repair facility during their freshman summer semester. Students will reinforce automotive skills and theory acquired during the freshman spring semester. All automotive students are required to attend an Internship Orientation session prior to starting their internship.

AUT* 180 Diesel Technology   **3.5 S.H.**
Provides students up to date information on the construction, operation, service and repair of diesel engines. In addition to detailing the fundamentals of operation, this course will cover engine control systems, fuel management, and emissions control systems. Two hours lecture/three hours lab.

AUT* 201 GM Engine Performance (AUT 201)   **3.5 S.H.**
Covers basic fuel theory, nomenclature, and the skills necessary to service and repair computerized automotive fuel systems. Upon completion, students should be able to identify and explain fuel circuits and fuel systems theory, and test and repair fuel pumps and computerized fuel injection systems to return an automobile to satisfactory operating condition. Two hours of lecture / three hours of laboratory.

AUT* 203 GM Manual Drive Train and Axles (AUT 203)   **3.5 S.H.**
Presents the proper procedures for the diagnosis and repair of General Motors manual drive transmissions and transaxles. Places particular emphasis on clutches, drive (half) shaft, universal joint, and rear axle, and four-wheel drive components. Two hours of lecture / three hours of laboratory.

AUT* 205 GM Automatic Transmission and Transaxle (AUT 205)   **3.5 S.H.**
Explains concepts and procedures of diagnosis, repair, and general overhaul of General Motors transmissions and transaxles. Places particular emphasis on applying classroom information to practical experience through on-vehicle and off-vehicle diagnosis and repair. Two hours of lecture / three hour of laboratory. Prerequisite: AUT* 203.

AUT* 207 GM Heating and Air Conditioning (AUT 207)   **3.5 S.H.**
Presents the proper procedures for diagnosing and repairing General Motors air conditioning, heating, and engine cooling systems, operating systems, and related controls. Two hours of lecture / three hours of laboratory.

AUT* 231 Fuel Systems   **3.5 S.H.**
Covers basic fuel theory and nomenclature, as well as the skills necessary to service and repair computerized automotive fuel systems. Pre-requisite: AUT* 134.

AUT* 233 Manual Transmissions and Transaxles   **3.5 S.H.**
Provides students with the proper procedures for the diagnosis and repair of automotive manual drive transmissions and transaxles. Places particular emphasis on clutches, drive (half) shafts, and universal joints, along with rear axle and four-wheel drive components. Two hours of lecture/three hours of lab.

AUT* 235 Automatic Transmissions and Transaxles   **3.5 S.H.**
Explains concepts and procedures of diagnosis, repair, and general overhaul of transmissions and transaxles. Places particular emphasis on converting classroom information into practical laboratory experience through on-vehicle and off-vehicle diagnosis and repair. Two hours of lecture/three hours of lab. Pre-requisite: AUT* 233.

AUT* 237 Heating & Air Conditioning   **3.5 S.H.**
Provides students with proper procedures for the diagnosis and repair of air conditioning systems, heating, and engine cooling systems, operating systems, and related controls. Two hours of lecture/three hours of lab.

AUT* 241 Honda Engine Performance Systems   **3.5 S.H.**

Utilizing both theory and practice, this course will cover basic performance and emissions theory and nomenclature as well as the skills necessary to service and repair computerized automotive fuel and ignition systems. Theory, operation, diagnosis, and repair procedures will be covered. Two hours lecture/three hours lab.

AUT* 243 Honda Manual Drive Train and Axles   **3.5 S.H.**

Utilizing both theory and practice, this course will cover the proper procedures for the diagnosis and repair of automotive manual drive transmissions and transaxles. Particular emphasis will be placed on clutches, drive (half) shafts, universal joints, rear axle and four-wheel drive components. Theory, operation, diagnosis, and repair procedures will be covered. Two hours lecture/three hours lab.

AUT* 244 Honda Advanced Electrical & Performance Systems   **3.5 S.H.**

Utilizing both theory and practice, this course will cover the advanced electrical and performace systems. Advanced diagnostic procedures will be covered. Will expand on concepts taught in AUT* 144 and AUT* 241. This is an advanced level course designed to prepare students for the L1 ASE certification. Two hours Lecture/three hours lab. Prerequisite: AUT* 144 and AUT* 241.

AUT* 245 Honda Automatic Transmission and Transaxle   **3.5 S.H.**

Utilizing both theory and practice, this course will cover the transference of engine power through transmission to final drive units on both front and rear wheel drive cars. Includes maintenance and repair of automatic transmissions, drive shaft assemblies and differentials, transmission/transaxle mechanical, hydraulic, and electrical operation. Service, overhaul, mechanical/electrical diagnosis procedures and use and application of diagnostic equipment will also be covered. Theory, operation, diagnosis, and repair procedures will be covered. Two hours lecture/three hours lab.

AUT* 247 Honda Heating and Air Conditioning   **3.5 S.H.**

Utilizing both theory and practice, this course will cover the proper procedures for the diagnosis and repair of air conditioning systems, heating, engine cooling systems, operating systems, and related controls. Theory, operation, diagnosis, and repair procedures will be covered. Two hours lecture/three hours lab.

AUT* 248 Advanced Electrical Systems Electronics (AUT 248)   **3.5 S.H.**

Covers Advanced Electronic Systems theory, nomenclature, and diagnosis and repair. Includes semiconductors, advanced cranking and charging, SIR, ABS control systems, on-board navigation, power DSO, and more. Two hours of lecture / three hours of laboratory. Prerequisites: AUT* 124 or AUT* 114.

AUT* 251 Honda Automotive Service Technology I   **3.5 S.H.**

Covers automotive drive train systems, engines, transmissions, and transaxle components. Theory, operation, diagnosis, and repair procedures will be covered. Two hours of lecture / three hours of laboratory. Prerequisites: AUT* 151, 152, 153, 154.

AUT* 252 Automotive Service Technology II   **3.5 S.H.**

Covers suspension/steering and brakes. Students will become familiar with diagnosis and repair of suspension/steering and brakes systems and components as defined by the NATEF. Two hours of lecture / three hours of laboratory. Prerequisites: AUT* 151, 152, 153, 154.

AUT* 253 Honda Automotive Service Technology III   **3.5 S.H.**

Covers electrical/electronic systems and engine performance. Students will become familiar with electrical circuits, alternators, starters, batteries, and all automotive electrical components. Two hours of lecture / three hours of laboratory. Prerequisites: AUT* 151, 152, 153, 154.

AUT* 254 Honda Automotive Service Technology IV   **3.5 S.H.**

Covers body systems, electrical/electronic, heating and air conditioning, suspension and steering, and brakes. Two hours of lecture / three hours of laboratory. Prerequisites: AUT* 151, 152, 153, 154.

AUT* 258 Honda Master Automobile Service Technology   **5 S.H.**

Covers advanced automotive systems. Heavy emphasis will be placed on safety and proper use of tools and equipment. Information acquisition will be presented. Theory, operation, diagnosis, and repair procedures will be covered. Three hours of lecture / four hours of laboratory. Prerequisites: AUT* 251, 252, 253, 254.

AUT* 260 Internship III (AUT 260)   **2 S.H.**

Students participate in 5 weeks of additional practical training (200 hours) at a dealership or automotive repair facility. All automotive students are required to attend an Internship Orientation session prior to starting their internship.

AUT* 261 GM Internship 3A   **1 S.H.**
Students participate in three weeks of practical training at either a GM dealership or AC Delco repair facility during their sophomore fall semester. Students will reinforce automotive skills and theory acquired during the sophomore fall semester. All automotive students are required to attend an Internship Orientation session prior to starting their internship.

AUT* 263 GM Internship 3C   **1 S.H.**
Students participate in three weeks of practical training at either a GM dealership or AC Delco repair facility during their sophomore spring semester. Students will reinforce automotive skills and theory acquired during the sophomore fall semester. All automotive students are required to attend an Internship Orientation session prior to starting their internship.

AUT* 270 Internship IV (AUT 270)   **2 S.H.**
Students participate in 5 weeks of advanced practical training (200 hours) at a dealership or automotive repair facility. All automotive students are required to attend an Internship Orientation session prior to starting their internship.

AUT* 271 GM Internship 4   **3 S.H.**
Students participate in ten weeks of practical training at either a GM dealership or AC Delco repair facility during their sophomore summer semester. Students will reinforce automotive skills and theory acquired during the sophomore spring semester. All automotive students are required to attend an Internship Orientation session prior to starting their internship.

AUT* 280 Internship V (AUT 280)   **6 S.H.**
Students participate in 16 weeks of advanced practical training (640 hours) at a dealership or garage to learn advanced automotive electrical/electronic and fuel injection experience. All automotive students are required to attend an Internship Orientation session prior to starting their internship.

AUT 282 Advanced Fuel Injection Systems   **3.5 S.H.**
Covers advanced fuel injection system theory, nomenclature, and diagnosis and repair, and includes OBDII, scan diagnostics, emission control systems, exhaust gas analyzer, and digital storage oscilloscopes. Two hours of lecture / three hours of laboratory. Prerequisite: AUT* 201 or AUT* 221.

BIOLOGY

BIO* 100 Basic Biology (BIO 110)   **3 S.H.**
A one-semester course in Biology that introduces students to the chemical and cellular bases of life, diversity and classification of life and the mechanisms that different organisms require for survival and reproduction. Also introduces the basis principles of inheritance and evolution as well as interactions with other organisms and their environment.

BIO* 105 Introduction to Biology (BIO 118)   **4 S.H.**
Deals with the chemical and cellular bases of life, cell structure and function, growth, diversity and classification, life cycles of plant and animal representaitves. Principles of genetics, organic evolution, and ecology. Involves fieldwork and dissection. Three hours of lecture / three hours of laboratory. Pre-requisite: Eligible for ENG* 101.

BIO* 110 Principles of the Human Body (BIO 115)   **3 S.H.**
Introduces students to the basic structures and functions of the human body. An overview of chemical and cellular processes will be covered. Explores the major organs and systems. Students will gain insights into how their own bodies work. Lecture only.

BIO* 113 Physiology of Aging (BIO 112)   **3 S.H.**
Studies the physical aging process of older individuals to give the student knowledge of age-related cognitive and physical changes and the impact those changes have on the social and psychological functioning of the individual.

BIO* 115 Human Biology (BIO 116)   **4 S.H.**
Deals with the structure of the body in relation to function in both health and disease. The laboratory exercises explore the human body's biological systems. Involves dissection. Three hours of lecture / three hours of laboratory.

BIO* 121 General Biology I (BIO 121)   **4 S.H.**
Deals with basic chemistry, the molecular and cellular bases of life, metabolism, and the growth and reproduction of cells. Covers the molecular and chromosomal bases of heredity and evolution. Details of Prokaryotes, Protista, and Fungi are included. Involves some fieldwork and dissection. Prerequisites: High school biology, BIO* 100, BIO* 105, or instructor's permission. Three hours of lecture / three hours of laboratory.

BIO* 122 General Biology II (BIO 122)   **4 S.H.**
Builds on concepts in General Biology. Deals with the diversity and classification of life, plant and animal structures, functions and evolution, animal behavior and the immune system, and the interaction between various forms of life and their environments. Involves some fieldwork and dissection. Prerequisite: BIO* 121 or instructor's permission. Three hours of lecture / three hours of laboratory.

BIO* 211 Anatomy and Physiology I (BIO 127)   **4 S.H.**
Covers human body structure and function, emphasizing the basic concepts of chemistry and cells, tissues and the integumentary, skeletal, joint, muscular, and nervous systems. Laboratory work parallels the material covered in lecture. Dissection is required. Prerequisite: BIO* 105. Three hours of lecture / three hours of laboratory.

BIO* 212 Anatomy and Physiology II (BIO 128)   **4 S.H.**
Builds on the knowledge learned in BIO* 211. Covers the endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems. Laboratory work parallels the material covered in lecture. Prerequisite: BIO* 211 with a grade of C or better. Dissection is required. Three hours of lecture / three hours of laboratory.

BIO* 235 Microbiology (BIO 201)   **4 S.H.**
Considers the general characteristics of microorganisms, emphasizing host-parasite relationships, details of morphology and physiology, and the control of epidemiological problems. Emphasizes human and animal pathogens. Laboratory work parallels the material covered in lectures and provides experience in microbial techniques. Prerequisite: BIO* 105 and BIO* 121 or 122 or BIO* 211 or 212 or instructor's permission.

BIOMEDICAL ENGINEERING TECHNOLOGY*

BME* 110 Biomedical Technology   **2 S.H.**
Introduces the interdisciplinary nature of the Biomedical Engineering Technology program through engineering and medical terminology. Presents hospital and industrial policies, procedures, and codes with an emphasis on safety. Introduces biomedical instrumentation, control systems, and the man-machine interface.

BME* 112 Biomedical Electrical Circuits   **5 S.H.**
Presents electrical circuits for biomedical instrumentation. Introduces and develops concepts of voltage, resistance, current, and power in DC and AC circuits. Analyzes RLC circuits in DC and AC circuit applications. Presents Thevenin, maximum power transfer, and superposition theorems. Introduces electromagnetism and its effects. Four hours of lecture / two hours of laboratory.

BME* 114 Biomedical Electronics (Course has not been offered in the past two years)   **5 S.H.**
Presents electronics for biomedical instrumentation. Stresses reliability and safety. Introduces electron tubes and solid-state devices. Presents design and application of amplifiers, oscillators, high input impedance devices, and precision timers. Introduces and develops power supply design, voltage regulation, and high power-high speed switching. Four hours of lecture / two hours of laboratory. Prerequisite: BME* 112.

BME* 116 Physiological Systems   **4 S.H.**
Examines human anatomy and physiology, using chemical, mechanical, and electrical system models. Presents biopotential generation and regulatory control systems. Develops computer simulations of physiological events. Three hours of lecture / two hours of laboratory.

BME* 210 Biomedical Instrumentation   **4 S.H.**
Presents the principles, applications, and design of biomedical instrumentation. Includes discussion of measuring, monitoring therapeutic, and clinical laboratory equipment. Presents imaging techniques and computers. Three hours of lecture / two hours of laboratory. Prerequisite: EET* 136.

BME* 212 Biomedical Equipment Design   **4 S.H.**
Develops instrumentation standards and construction techniques for biomedical equipment. Presents the documentation and hardware components of a biomedical instrumentation system. Uses commercial instrumentation systems for analysis and testing. Two hours of lecture / four hours of laboratory. Prerequisite: BME* 210.

BME* 214 Advanced Biomedical Instrumentation   **4 S.H.**
Presents applications of data acquisition and analysis, imaging, and control systems. Develops microprocessor- and computer-based instrumentation. Systems studied include Medical Networking, Expert Systems, Fiberoptics, Lasers, and Tomography. Three hours of lecture / three hours of laboratory. Prerequisite: BME* 210.

BME 219 Special Topics in Biomedical Engineering   3 S.H.
Presents special topics in biomedical engineering on which students work independently and which are not covered in the regular program. *Open to seniors only*. Prerequisite: Approval of Division Director.

BME* 220 Biomedical Practicum   3 S.H.
Applies safety, calibration, and troubleshooting techniques to practical situations. Also provides on-site practical experience in a hospital. Prerequisites: Approval of Program Coordinator.

BUSINESS (GENERAL)

BBG* 101 Introduction to Business (BUS 110)   3 S.H.
Introduces the principles and practices of business management. Applies management principles to various types of business and industrial organizations and organizational problems.

BBG* 115 Business Software Applications (BUS 105)   3 S.H.
Stresses the usefulness of computers in business. Students will learn in this hands-on course how to use word processing software for writing and editing, data base software to organize and search for information, and spreadsheet software to perform calculations on tables of numbers.

BBG* 200 Principles of Business Statistics (BUS 200)   3 S.H.
Presents the statistical techniques appropriate for dealing with problems in business and social science. Students will learn basic statistical concepts and methods of solving statistical problems, becoming familiar with those problems on a microcomputer. Considers the measures of central tendency and dispersion, index numbers, time series, probability, statistical inference, regression and correlation analysis, and decision-making theory. Prerequisites: Sufficient score on the placement exam or MAT* 137 or instructor's permission.

BBG* 210 Business Communication (BUS 214)   3 S.H.
Emphasizes basic communication skills in a business environment. After a review of grammar, punctuation and sentence structure, students will plan, organize, and edit several forms of business communications, including memos, letters, resumes, and reports. Oral presentations are part of the curriculum. Social networking for business purposes and its various uses is also discussed; students evaluate the advantages and potential risks.

BBG* 231 Business Law I (BUS 121)   3 S.H.
Provides knowledge and understanding of fundamental legal principles and their application to business transactions. Stresses laws relating to administrative regulations, consumer protection, environmental protection, torts and crimes, and contracts.

BBG* 232 Business Law II (BUS 122)   3 S.H.
Emphasizes laws relating to personal property, bailments, sales, negotiable instruments, agency and employment, and business organizations. Prerequisite: BBG* 231.

BBG* 240 Business Ethics (BUS 216)   3 S.H.
Introduces students with little or no background in philosophy or ethics to traditional and contemporary ethical theory. This course critically examines both the theories and applications of moral problems in business. Topics include employee rights and responsibilities, pay equity and comparable worth, whistle blowing, trade secrets and confidentiality, conflict of interest, discrimination and sexual harassment, pollution, consumer protection, professional ethics, truth-telling in business dealings, social responsibility of business, and fiduciary responsibility to stockholders and stakeholders. Prerequisite: ENG* 101.

BBG* 294 Business Internship (BUS 220)   3 S.H.
Provides an opportunity for students to gain experience in business and industry. Students will be required to spend a minimum of five hours per week at their internship site. Furthermore, in-class sessions will be held during the semester for orientation and evaluation purposes. Prerequisites: fifteen earned credits in Business courses, ENG* 101, a minimum GPA of 2.75. Students will be interviewed during the semester prior to taking this course. Instructor's permission required for registration.

BUSINESS (ENTREPRENEURSHIP)

BES* 218 Entrepreneurship (BUS 236)   3 S.H.
Helps students gain the knowledge and skills needed to start and/or manage a small business. Explains how to start a small business, franchising, sources of funding, site selection, employee relations, sales promotion, credit, and legal aspects of businesses.

BES* 219 Management and Growth – Small Business (BUS 238)   **3 S.H.**
Builds upon the knowledge and skills needed to manage small business taxes (after cash flow). Emphasizes marketing, human resources, management, accounting, cash flow, and business plan review.

BES* 239 Business Plan (BUS 239)   **3 S.H.**
Demonstrates how to develop a business plan. Draws on earlier courses and emphasizes the substance and completeness of the business plan. Prerequisites: ACC* 113, BMK* 201, BES* 218, and BES* 219.

BUSINESS (FINANCE)

BFN* 110 Personal Finance (BUS 117)   **3 S.H.**
Examines the basic principles and important concepts of personal finance. Includes personal budgeting, consumer credit, insurance, real estate, personal income taxes, retirement, investments, and safeguarding of resources.

BFN* 126 Principles of Insurance (BUS 111)   **3 S.H.**
Examines the history, economics, and social values of insurance. Compares various contracts and coverage; studies the structure of the insurance industry; emphasizes principles such as sales, underwriting, claims, rate making and government regulations. Meets the education prerequisite for Connecticut Property and Casualty Insurance Broker examination.

BFN* 201 Principles of Finance (BUS 212)   **3 S.H.**
Surveys sources of short-, intermediate- and long-term funds for a business. Discusses stocks, bonds, investment, working capital, banking policy of systems, urban financing, and government financing. Prerequisites: ACC* 113, ACC* 114 or ACC* 117 (may be concurrent), CSA* 135, ECN* 101 or 102, MAT* 137 or instructor's permission.

BUSINESS* (MANAGEMENT)

BMG* 201 Principles of Supervision (BUS 222)   **3 S.H.**
Develops supervisory ability and judgment through a presentation of the principles and techniques of effective supervision. Topics include communication, motivation, training, personnel selection, disciplining, counseling, and controlling performance. Uses both case and incident study methods.

BMG* 202 Principles of Management (BUS 225)   **3 S.H.**
Introduces the study of management, which is both a discipline and a process. Major topic areas include the evolution and scope of management, decision making, planning, organizing, leading, and controlling. Emphasizes the importance of managing in a global environment and understanding the ethical implications of managerial decisions.

BMG* 210 Organizational Behavior   **3 S.H.**
Presents the concepts and principles of modern management theory and practice as they apply to organizations. Emphasizes the functions of planning, organizing, directing, and controlling along with staffing and communications.

BMG* 220 Human Resources Management (BUS 215)   **3 S.H.**
Introduces the legal and social function of Human Resource Management in today's dynamic business environment. Topics include personnel, planning, recruitment, testing, training, compensation, motivation, appraisals, discipline, and career management.

BMG* 227 Risk Management (BUS 208)   **3 S.H.**
Covers risk management policies, business property risks, family property, and liability risks. Analyzes and discusses actual cases. Prerequisite: BFN* 126.

BUSINESS (MARKETING)

BMK* 103 Principles of Retailing (BUS 130)   **3 S.H.**
Explores the fundamentals of retailing and its scope and significance in our marketing system. Among the topics covered are the distinguishing characteristics of retailing, store classification, operations planning, location analysis, layout and design, the retail price, future trends, and retailing careers.

BMK* 201 Principles of Marketing (BUS 210)   **3 S.H.**
Presents the fundamentals of marketing and marketing theory. Emphasizes theories relevant to marketing and the business environment, marketing and the social environment, product strategies, distribution, promotion, and pricing.

BMK* 215 Principles of eBusiness (BUS 245)   **3 S.H.**
This course presents the fundamentals of eBusiness. Emphasis will be placed on business tools, not technology. This course will cover the concepts, tools, and strategies for exploring and understanding the opportunities and challenges associated with eBusiness.

BMK* 220 Sales (BUS 204)   **3 S.H.**
Stresses the characteristics of a good salesperson, describes the various types of sales jobs, and explores the psychology of selling and various sales techniques.

BMK* 230 Advertising and Promotion (BUS 230)   **3 S.H.**
Discusses special practices in retail advertising and sales promotion. Includes strategic promotional planning, preparing a media-wide retail promotional campaign, visual merchandising, and publicity. Discusses effective techniques in the preparation of retail copy.

BMK* 241 Principles of Advertising BUS 211)   **3 S.H.**
Analyzes principles and practices of advertising, including purposes of advertising, principles of advertising copy, layout, mechanics, media, and development of an advertising campaign. Prerequisite: BMK* 201.

BMK* 242 Retail Buying (BUS 231)   **3 S.H.**
Introduces the basic principles of buying merchandise for resale, sources of supply, determining and selecting suitable merchandise, negotiating for merchandise, basic buying considerations, and other related activities.

BMK* 255 Fashion Analysis (BUS 131)   **3 S.H.**
Analyzes the economic, psychological, and sociological factors in the development of fashion. Students obtain a knowledge of fashion terminology, fashion designers, color, line, design, and the stages in the fashion cycle. Studying the historical development of costume, from the Egyptian period through the twentieth century, helps the student interpret and discuss fashion trends.

BMK* 257 Textiles (BUS 232)   **3 S.H.**
Provides a background in and selling information for various textile products. Discusses standards for identifying high quality products and how to care for them. Focuses on materials, construction, methods of manufacturing, and basic styles in order to analyze the appeal of merchandise to customers.

BMK* 285 Current Marketing Topics (BUS 240)   **3 S.H.**
Emphasizes such current issues in marketing as database marketing, quality customer service, telemarketing, and marketing on the Internet. Prerequisite: BMK* 201.

BMK* 295 Field Experience I (BUS 234)   **3 S.H.**
Allows the student to gain knowledge of a store's or manufacturer's policies, systems, and basic job responsibilities. Students will be required to spend a minimum of six hours per week at their work site. Instructor's permission is required for registration.

BMK* 296 Field Experience II (BUS 235)   **3 S.H.**
Builds upon Field experience II if student stays at the same work site. A student may select a different work site to expand exposure and experience in retailing, fashion, and manufacturing.

BUSINESS (REAL ESTATE)

BRE* 201 Real Estate Principles (BUS 205)   **3 S.H.**
Covers land, business and market ownership, leases, advertising, financing, and mortgages. Aids the student in taking the Connecticut examination for agent or broker licensing.

BUSINESS OFFICE TECHNOLOGY
All Business Office Technology courses may be taken as a business or computer elective.

BOT* 111 Keyboarding for Information Processing I (BOT 101)   **3 S.H.**
Presents the keyboard and correct stroking techniques by means of the touch method and word processing computer software packages. Practical applications include simple tabulations, letters, memoranda, and short reports. Note: May not be taken concurrently with BOT* 137.

BOT* 112 Keyboarding for Information Processing II (BOT 102) **3 S.H.**
Improves on the skills developed in the beginning course and introduces a variety of production problems, including correspondence, tabulations, business forms, and reports. Prerequisite: BOT* 111. Note: may not be taken concurrently with BOT* 111.

BOT* 137 Word Processing Applications (Word) (BOT 215) **3 S.H.**
Introduces students to the concepts of word processing and hands-on experience with computers and popular word processing software. Prerequisite: BOT* 111. Note: May not be taken concurrently with BOT* 111.
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BOT* 165 Small Business Office Accounting (BOT 209) **3 S.H.**
Provides students with knowledge of basic accounting procedures. Topics covered include preparation of financial reports, recording daily transactions, banking procedures, payroll preparation, and accounting applications on a computer. Recommended for students in career or one-year certificate programs only.

BOT* 181 Medical Coding I **3 S.H.**
Provides students with an in-depth study of basic International Classification of Disease, 9th rev. Clinical Modification (ICD-9-CM) and Current Procedural Terminology (CPT-4) coding. Diagnoses, procedures, signs, and symptoms will be studied and coded by students using the assigned textbook. The flow of medical records from the physician's office to hospital discharge will be tracked for insurance, risk management, and case study purposes.

BOT* 182 Medical Coding II **3 S.H.**
Continues the concepts introduced in Medical Coding I using International Classification of Disease, Clinical Modification (ICD-9-CM) and Current Procedural Terminology (CPT-4). Students will utilize medical records and case histories to code the diagnoses and procedures according to the level of care received in the appropriate medical facilities. Prerequisite: BOT* 181.

BOT* 215 Word Processing Applications II (Word) (BOT 216) **3 S.H.**
Concentrates on applications and projects to promote competency with microcomputers using popular word processing software. Emphasizes recording, formatting, editing, and temporary and permanent revising. Prerequisite: BOT* 137 or instructor's permission.

BOT* 217 Desktop Publishing (BOT 218) (Course has not been offered in past two years) **3 S.H.**
Presents the concepts and applications of desktop publishing. Using personal computers and state-of-the-art software, students will learn the fundamentals of using desktop publishing to create newsletters, brochures, reports, fliers, and resumes. Prerequisite: Knowledge of Microsoft Windows and touch keyboarding (35 wpm).

BOT* 219 Integrated Microsoft Office (BOT 204) **3 S.H.**
Students will work independently to solve production problems of increasing complexity using Microsoft Office (Word, Excel, Access, and PowerPoint). Prerequisites: BOT* 112, BOT* 137, and CSA* 135.

BOT* 220 Computerized Communication (Microsoft PowerPoint, e-mail, Internet) (BOT 219) 3 S.H.
Provides students with hands-on experience using the Internet, e-mail and Microsoft PowerPoint presentation and voice-recognition software. In this activity-oriented course, students will use state-of-the-art software and hardware to develop skills in these areas. Prerequisite: Knowledge of Microsoft Windows.

BOT* 251 Administrative Procedures (BOT 205) **3 S.H.**
Includes letter composition, keyboarding rough drafts, handling incoming and outgoing mail, records management, preparing itineraries and reports, telephone etiquette, business ethics and etiquette. Prerequisite: BOT* 137 or instructor's permission.

BOT* 271 Legal Document Production (BOT 213) (Course has not been offered in past two years) **3 S.H.**
Helps students achieve the ability to type legal documents correctly and efficiently. Includes keyboarding legal terminology with speed and accuracy, understanding the use of legal documents, and knowing how to produce legal documents and correspondence. Offered in the fall semester of odd years (2005, 2007, etc.). Prerequisite: BOT* 112 and BOT* 137 or instructor's permission.

BOT* 272 Legal Administrative Procedures (BOT 211) (Course has not been offered in past two years) **3 S.H.**
Applies keyboarding skills to prepare legal papers and correspondence and presents the court system and the sources of laws, law office ethics, non-court documents, litigations, and appeals. Offered in the fall semester of odd years (2005, 2007, etc.). Prerequisites: BOT* 112 and BOT* 137 or instructor's permission.

BOT* 280 Medical Transcription and Document Production (BOT 223)   **3 S.H.**
Introduces medical terms and develops transcription techniques to produce acceptable copy within a time frame that meets real employment requirements. Enlarges medical vocabulary through the study of prefixes and suffixes used in general medicine. Prerequisite: BOT* 137 or instructor's permission.

BOT* 282 Medical Administrative Procedures (BOT 221)   **3 S.H.**
Presents the duties and responsibilities of the medical administrative assistant, including medical office ethics, how to deal with patients, health insurance, medical office software, telephone techniques, and filing. Prerequisite: BOT* 137 or instructor's permission.

BOT* 295 Administrative Practicum (BOT 210)   **3 S.H.**
Provides on-the-job experience in the offices of the College, area businesses, local lawyers' or doctors' offices or hospitals. Students are required to work a total of 125 hours during the semester. Hours will be arranged by mutual consent of the student and employer. In-class sessions are held during the semester for orientation and evaluation purposes. Prerequisite: BOT* 251; Legal: BOT* 271 and BOT* 272; Medical: BOT* 280 and BOT*282. Note: Students must meet with instructor during the semester prior to taking this course. Instructor's permission required for registration.

CHEMISTRY

CHE* 101 Introductory Chemistry (CHE 110)   **3 S.H.**
Surveys important chemical theories and applications, including the atomic structure of matter, chemical bonding and energy changes, gas laws, stoichiometry, solutions, electrochemistry, organic chemistry, and biochemistry. Prerequisite: MAT* 115 or 137 or placement in MAT* 142 or higher. Students wishing to transfer should take MAT* 137.

CHE* 111 Concepts of Chemistry (CHE 117)   **4 S.H.**
Serve either as a survey course or as a preparatory course for general chemistry. Intended for students with little or no background in Chemistry or for students who need to meet a readmission requirement for nursing or other allied health programs. Also serves students who require a laboratory science course. Discusses fundamental principles, theories, and laws of chemistry, including organic chemistry and biochemistry. Three hours of lecture / three hours of laboratory. Prerequisite: MAT* 115 or 137 or placement in MAT* 142 or higher. Students wishing to transfer should take MAT* 137.

CHE* 121 General Chemistry I (CHE 121)   **4 S.H.**
Presents the fundamental principles of chemistry, including atomic structure, stoichiometry, chemical bonding, chemical reactions, and chemical and physical changes. Laboratory experiments consist of the basic techniques used for chemical analysis and chemical reactions. Three hours of lecture / three hours of laboratory. Prerequisite: MAT* 115 or 137 or placement in MAT* 142 or higher. Students wishing to transfer should take MAT* 137.

CHE* 122 General Chemistry II (CHE 122)   **4 S.H.**
Builds on the knowledge learned in General Chemistry I. Includes reaction rates, electrochemistry, equilibrium conditions, pH, buffers and energy effects in chemical reactions. Three hours of lecture / three hours of laboratory. Prerequisite: CHE* 121.

CHE* 211 Organic Chemistry I (CHE 211)   **4 S.H.**
Presents bonding, formulation, and molecular shapes of organic molecules. Presents nomenclature, preparation, and creations of alkanes, cycloalkanes, alkenes, alkynes, and aromatics. Explains reaction mechanisms when necessary. The laboratory portion features the basic reaction and preparation techniques used in organic chemistry. The laboratory exercises investigate either the preparation or the reaction of the aforementioned chemical species. Three hours of lecture / four hours of laboratory. Prerequisite: CHE* 122 or instructor's permission.

CHE* 212 Organic Chemistry II (CHE 212)   **4 S.H.**
Builds on the knowledge learned in Organic Chemistry I, presenting the nomenclature, preparation, and creation of alcohols, ethers, aldehydes, ketones, carboxylic acids, esters, amines, and biomolecules. Explains reaction mechanisms when necessary. The laboratory exercises investigate either the preparation or the reaction of the aforementioned chemical species. Other laboratory exercises include using modern instrumentation to identify organic compounds. Three hours of lecture / four hours of laboratory. Prerequisite: CHE* 211 or instructor's permission.

CLEAN WATER MANAGEMENT

CWM* 106 Introduction to Utility Management   **3 S.H.**
Introduces areas of water and clean water (aka wastewater) including organization, planning, public relations, customer service, finances, environmental health and safety, security, operations and maintenance, human resources, information system and services, legal issues, support services, competition, continual improvement management and crisus communication.

CWM* 108 Chemistry, Biology & Mathematics of Clean Water   **4 S.H.**
Provides the biology, chemistry and mathematics knowledge necessary to succeed in subsequent courses covering the operation and maintenance of municipal wastewater facilities. Emphasis is placed on application to municipal wastewater facilities with a goal of preparing students to successfully pass Class I, II II and IV Wastewater Certification Examinations administered by the Connecticut Department of Environmental Protection.

CWM* 110 Clean Water I   **3 S.H.**
Introduces the safe and effective operation of wastewater treatment plants including preliminary, primary, and secondary treatment and disinfection.

CWM* 112 Clean Water II   **3 S.H.**
Introduces the safe and effective operation of wastewater treatment plants including security, surface and groundwater quality standards, sludge/biosolids handling, effluent disposal, biological processes and cycles, plant safety and maintenance, pumps, laboratory testing of wastewater and permits, records and reports. Two hours lecture/two hours lab. Prerequisite: CWM* 110, DEP Class 1 License or permission of instructor.

CWM* 114 Clean Water III   **3 S.H.**
Introduces the safe and effective operation of wastewater treatment plants including odor control, nitrogen and phosphorous removal, wastwater reclamation and recycling, instrumentation and residual solids management. Two hours lecture/two hours lab. Co-requisite: CWM* 112, DEP Class 2 license or permission of instructor.

COMMUNICATIONS

COM* 106 Introduction to Broadcasting (COM 103)   **3 S.H.**
Surveys broadcasting in the United States from its beginning to the present. Emphasizes the physical nature of the medium, the historical accidents of its origin and growth, the economic basis of its operation, and the role of the broadcaster in our society.

COM* 107 Mass Communication and Advertising (COM 106)   **3 S.H.**
Examines the social and economic aspects of advertising and consumer psychology, including the role of mass communication and advertising in marketing strategies. Presents legal restrictions, advertising practices, and issues and emphasizes the organization of the advertising industry today.

COM* 121 Journalism I (COM 102)   **3 S.H.**
Examines the role of the newspaper in our changing society and introduces the practical aspects of newspaper production. Includes assignments in reporting, editorializing, feature writing, and editing. May require students to participate in the production of collegewide periodicals. Prerequisite: ENG* 101 or instructor's permission.

COM* 141 Television Production I   **3 S.H.**
Introduces the art, practice, theory and history of television production. Both experienced and non-experienced students will benefit from this course through study, hands-on production and editing techniques, workshops and actual studio practice during which students will work on actual live and taped programs.

COM* 171 Fundamentals of Human Communication (COM 101)   **3 S.H.**
Develops effective communication skills through a balance of theory and practice in interpersonal, small group, and public speaking contexts. Stresses verbal and non-verbal communication, critical listening, and the processes of preparing and delivering oral presentations. Prerequisite: Sufficient score on placement test. Developmental students should not take COM* 171 unless they have successfully completed ENG* 063, ESL* 161 and ESL* 178 with a grade of "C" or better (or instructor recommendation). (If students place into both ENG* 063 and ENG* 073 or ENG* 082, *they must successfully complete both with a grade of "C" or better).*

COM* 172 Interpersonal Communication (COM 109)   **3 S.H.**
Develops oral communication skills in personal, family, and business relationships through practical applications and exercises. Provides an understanding of self and others. Examines assertiveness and interactive strategies.

COM* 174 Advanced Public Speaking (COM 202)   **3 S.H.**
Builds on the theory and practice of public speaking. Designed for professionals, advanced communication students, and for students needing to improve their presentation skills beyond an entry-level course. Offered under the College's independent study option as COM 209. Enrollment by application, subject to faculty and/or departmental approval. Prerequisite: COM* 171.

COM* 208 Mass Media and Society (COM 205)   **3 S.H.**
Surveys the components of mass communication. Introduces the nature and complexity of mass media by examining its role in the political, economic, and social fabric of society.

COM* 299 Independent Study   **3 S.H.**

COMPUTER AIDED DRAFTING *

CAD* 108 CAD Introduction (CAD 110)   **3 S.H.**
Introduces the procedures and techniques of Computer-Aided Design (CAD). Lectures cover production of orthographic and simple isometric drawings from basic entities and editing commands. One hour of lecture / four hours of laboratory. All classes are conducted in a computer laboratory. Corequisites: CET* 116 or equivalent and ARC*133 or equivalent.

CAD* 124 CAD: Electrical (EET 111)   **1 S.H.**
Introduces students to the computer-aided drawing software of MultiSim and OrCAD. Students produce a variety of electrical and electronic schematics and diagrams. Students also learn to apply the principles of graphing to engineering technology. Three hours of laboratory. (CAD* 126 Electrical Graphics/CAD can be substituted for this course.)

CAD* 126 Electronics Graphics/CAD (ETC 110)   **3 S.H.**
Introduces the concepts and practical applications of computer-aided design for electrical and electronic circuits, using software such as MultiSim and OrCAD. Also introduces the simulation of electrical and electronic circuits. Three hours of lecture in a laboratory setting. CAD* 126 can be substituted for CAD* 124.

CAD* 200   3D CAD Modeling (CAD* 132)   **4 S.H.**
Improves students' CAD competencies by presenting additional techniques and specialized commands. Two hours of lecture / four hours of laboratory. All classes are conducted in a computer laboratory. Prerequisite: CAD* 108 or equivalent.

CAD* 220   Parametric Deisgn   **3 S.H.**
Introduces the Solid Works parametric mechanical design software. Focuses on parametric modeling and includes topics such as the design process, rapid prototyping, and mechanism analysis. Students will design 3D solid parts, sheet metal parts, and assemblies and develop 2D documentation from them. Students will participate in individual and group design projects as appropriate. (Prior knowledge of CAD or permission of instructor required)

CAD* 271 CAD Solids Mechanical Pro-Engineer   **3 S.H.**
Introducts the basic Pro-Engineer software operation including part creation, drawing and assembly. 3D objects are made and orthographic drawings are created. Pro-Engineer is 3D solid modeling software from parametric technology.

COMPUTER ENGINEERING TECHNOLOGY *

CET* 110 DC/AC Circuits   **5 S.H.**
Presents the fundamental concepts of electric circuit behavior. Students will also learn basic DC and AC circuit analysis involving resistive, inductive, and capacitive elements and how reactance, resonance, and transformer relationships affect AC circuit response. Four hours of lecture / two hours of laboratory. Prerequisite: MAT* 095 or higher level math class.

CET* 116 Computer Applications for Technology   **3 S.H.**
Introduces technology-driven reporting requirements for text, data and graphics, virtual instrumentation, computer simulations for technology problem solving, and determination of computer tools for technology issues. Stresses technical report preparation, including graphical and tabulated analysis of data, with appropriate calculations and conclusions displayed in a variety of formats. Computer skills used to access and apply technical information will also be included. Two hours of lecture / two hours of laboratory.

CET* 120 Computer Electronics   **5 S.H.**
Surveys hardware and software computer elements beginning with semiconductor devices and theory. Topics covered include general and special purpose diodes and related circuits, rectifier circuits, clipping and clamping circuits, transistors (including BJT, FET and UJT), and amplifier, oscillator, power supply, and voltage regulation circuits. This course concludes with an introduction to op-amps and their basic applications. Four hours of lecture / two hours of laboratory. Prerequisite: CET* 110 or equivalent.

CET* 124 Structured Programming   **4 S.H.**
Covers structured programming techniques as tools for problem solving in engineering and technology applications. Emphasizes program development, structure, and testing. Lab assignments reinforce the topics discussed in lecture. Three hours of lecture / two hours of laboratory. Pre or corequisite: CET* 116

CET* 126 Computer Servicing   **4 S.H.**
Presents an overview of a microprocessing system with emphasis on hardware design, operation, troubleshooting, and servicing. The lab provides practical experience with electronic troubleshooting techniques. Actual servicing will take place on a basic microcomputing system. Three hours of lecture / two hours of laboratory. Pre or corequisite: CET* 116

CET* 145 Fundamentals of Voice and Cabling   **4 S.H.**
Introduces students into the various hardware aspects of establishing communication links between computers and/ or other end devices (printers, fax machines, telephony systems, video systems, data transmission systems). There is a growing need for experienced and knowledgeable voice and data cabling installation, maintenance, repair, and plant layout design technicians. Will utilize the Cisco program or similar title as a foundation, but will supplement this program with college-level report writing, laboratory experimentation, and theoretical analysis of the practical information contained in the Cisco on-line curriculum program. Two hours lecture / four hours of laboratory.

CET* 210 Computer Systems Software   **4 S.H.**
Investigates the computer's hardware-software interface. Topics include CPU architecture and programming, interfacing with I/O devices, memory management, file systems, and an introduction to networking. Laboratory assignments include installation and troubleshooting of system software for stand-alone and networked devices. Three hours of lecture / two hours of laboratory. Pre or corequisite: CET* 116

CET* 220 Digital/Data Communications   **4 S.H.**
Presents the fundamentals of digital and data communications, including serial and parallel transmission methodologies, media, protocol standards, and system architecture. Three hours of lecture / three hours of laboratory. Prerequisites: EET* 136 and EET* 256.

CET* 270 Computer Engineering Technology Practicum   **4 S.H.**
Provices students with experience within the Computer Engineering Technology workplace. Students will gain knowledge and experience through technical training working closely with others to service users and customers under the supervision of a team leader, supervisor, or proctor. Students are required to attend four weeks of class prior to performing 50 hours of internship over the remainder of the semester. Uniforms, some travel and physical work may be required. Prerequisites: CET* 126 & CET* 210.

COMPUTERS (APPLICATIONS)

CSA* 105 Introduction to Software Applications   **3 S.H.**
Provides an introduction to IBM-compatible microcomputers, a basic understanding of Windows and the Internet, and an in depth coverage of the use of the microcomputer as an office productivity tool. Covers creating and editing word processing documents, spreadsheets and computerized visual presentations. Also covers file management using the Microsoft Windows operating system. This course assumes no prior computing experience and is open to all students except those majoring in computer science.

CSA* 135 Spreadsheet Applications (Excel) (BOT 216)   **3 S.H.**
Provides students with the hands-on experience necessary to create, print, modify, and enhance electronic spreadsheets. This course also covers creating and printing charts; using formulas with absolute addresses and function formulas; Goal Seek; Solver; using and filtering Data Lists; creating Pivot Charts; using Outlines, Subtotals, and Lookup functions; and preparing *what-if* alternatives. Prerequisite: MAT* 075 or sufficient score on placement exam or permission of Program Coordinator.

CSA* 140 Database Applications (Access) (BOT 218)   **3 S.H.**
Provides students with hands-on experience entering and editing data, working with and customizing forms, creating and using queries, creating and customizing printing reports and mailing labels, and creating and relating tables using database software.

CSA* 295 Computer Science Applications Practicum   **3 S.H.**
Exposes students to real business programming that involves installing a brand new system. This project is typical of what would be expected from an entry-level programmer in business. Students will be responsible for the entire program development cycle for each of three new programs. Furthermore, students will be required to coordinate each of the parts into one integrated system. Prerequisite: CSC* 208.

CSA* 296 CWE - Computer Applications   **3 S.H.**
Places senior Computer Science students in positions where they can use the technical skills acquired in this program. Assignments may be in an educational or corporate environment. It is strongly recommended that students interested in securing internships take advanced courses in subjects such as: Visual BASIC, networking, and 'C' language. All of the organizations participating in our program require that interns earn excellent grades in advanced courses in the internship area prior to placement. Both the number and the type of internships vary from year to year and the most qualified applicants are awarded the internships available. Students are responsible to the department for proper documentation of their work assignments and a final report summarizing the overall work experience. The student will work a minimum of eight hours per week. Prerequisite: 24 earned credits in Computer Science courses; minimum QPA of 3.25; completion of CSC* 208; and formal notification of approval of internship application.

COMPUTERS (COMPUTER SCIENCE)

CSC* 101 Introduction to Computers (CSC 101)   **3 S.H.**
Introduces the fundamental components common to all computer systems, including a comprehensive overview of contemporary computer terminology and concepts. Utilizes the College's computer resources for solving problems. Topics studied include the use of word processing, electronic spreadsheets, Microsoft Windows, the Internet, and other popular software packages.

CSC* 110 Computer Logic and Problem Solving (CSC 104)   **3 S.H.**
Presents the fundamentals of computer problem-solving techniques. Stresses flow-charting and algorithm development. Three hours of lecture / two hours of laboratory. Pre or co-requisite: CSA* 105 or CSC* 101.

CSC* 150 Database Applications and Design - Using SQL (CSC 150)   **4 S.H.**
Presents relational database concepts and organization. Students will learn to use SQL to query and change these databases and generate the output needed. Furthermore, students will design their own databases using one or more of the dominant relational databases, such as ACCESS or ORACLE. Three hours of lecture / two hours of laboratory.

CSC* 207 Introduction to Visual Basic I   **4 S.H.**
Presents both the design and implementation of computer programs using Microsoft Visual Basic for Windows. Students will build applications, work with controls, and design forms. Three hours of lecture / two hours of laboratory. Prerequisites: CSC* 101 or CSA* 105.

CSC* 208 Advanced Visual Basic (CSC 232)   **4 S.H.**
Covers the benefits of on-line systems while concentrating on Visual Basic as the supportive software. Topics will be related to the operating environment, screen layouts and design, program components, input, output, file commands, and maintenance control. Using Visual Basic, students will build applications for the interactive control of file maintenance, including inquiry, adds, deletes, updates, and browse. Students have control of the complete cycle of program development. Three hours of lecture / two hours of laboratory. Prerequisite: CSC* 205.

CSC* 210 *C* Programming (CSC 128)   **4 S.H.**
Introduces the basics of programming in *C*, emphasizing the development of programming tools, data structures, library functions, and bitwise operators. The laboratory portion provides laboratory exercises to reinforce the topics covered in the *C* programming language. Three hours of lecture / two hours of laboratory. Prerequisite: CSC* 101.

CSC* 212 Advanced *C* Programming (CSC 212)   **4 S.H.**
Covers the techniques and applications of such advanced topics in the *C* language as searching and sorting using arrays, file processing, data structures, pointers, and random access to files. The laboratory portion gives the student the opportunity to implement programs using the new concepts learned in lecture. Prerequisite: CSC* 210 or CSC* 213. Three hours of lecture / two hours of laboratory.

CSC* 215 Programming with Object Oriented *C*++   **4 S.H.**
Introduces computer programming using *C*++. Each student will design, test, debug, and document several programs during the semester. Three hours lecture/two hours lab. Prerequisite: CSA* 105 or CSC* 101.

CSC* 223 Introduction to Java Programming (CSC 145)   **4 S.H.**
Presents the fundamentals of Java programming as an object-oriented language. Topics include classes, objects, data structures, event handling, graphical user interfaces, control structures, and methods. Three hours of lecture / two hours of laboratory. Prerequisite: CSA* 105 or CSC* 101.

CSC* 250 Systems Analysis and Design (CSC 224)   **3 S.H.**

Introduces systems analysis and design concepts and techniques. Using a case study method, students will conduct systems surveys, create feasibility studies, and design typical computer systems used in business and industry. Uses case studies to individualized student projects, reports, and PC systems. Prerequisite(s): CSC* 101 or CSA* 105 or departmental permission.

COMPUTER SCIENCE (TECHNOLOGY)

CST* 127 Server Operating System   **4 S.H.**

Analyzes the use of operating systems as a computer resource manager. It covers installation, configuration, maintenance and performance tuning of the operating system. Students will work on servers using the Microsoft Windows operating system. Also covers managing users and groups, computers and printers, file server management, and file system security. Microsoft Active Directory Services is a major topic in this course. Prerequisite: CST* 133.

CST* 133 Networking Fundamentals I   **4 S.H.**

Presents the necessary knowledge and skills to complete the basic network management tasks of system administration in a Windows environment. Designed with frequent lab exercises, students will learn network fundamentals including the OSI layer, topology, TCP/IP (IPv4 & IPv6), network security, and troubleshooting procedures. Network hardware such as routers, hubs, switches, racks and cabling are introduced. Three hours lecture/two hours lab. Corequisite: CSC* 101.

CST* 149 Computer Network Hardware   **4 S.H.**

Provides students with the technical knowledge and skills to maintain, troubleshoot and service Microsoft server and network equipment. Designed with frequent lab exercises to provide students with ample "hands-on" experience with the hardware and software components of a Windows network. Students will disassemble, reassemble, troubleshoot, and load device drivers for PC and server type computers. Also covers network hardware such as routers, switches, racks, uninterruptable power supplies, and tape drives. Three hours lecture/two hours lab. Prerequisite: CST* 133.

CST* 152 Introduction to Web Page and Design (CSC 140)   **4 S.H.**

Discusses effective design of Web pages, emphasizing clarity, organization, text, images, and links. Students will work with an HTML editor and an Internet browser to test and view pages. Students will use JavaScript to create, maintain, and update Web pages. Tags, objects events, input methods, table creation, and rollover images are among the JavaScript topics that will be covered. Three hours of lecture / two hours of laboratory. Prerequisite: CSA* 105 or CSC* 101.

CST* 180 Networking I (CSC 195)   **4 S.H.**

Serves as the first course in a series of four courses that provide classroom and laboratory experience in current and emerging networking technology. This series will empower students to enter the workforce and/or further their education and training in the computer networking field. Topics include the functions of the ISO/OSI reference model, data link and network addresses, the function of a MAC address, data encapsulation, the different classes of IP addresses and subnetting, and the functions of the TCP/IP network-layer protocols. Students learn how to plan, design, and install an Ethernet LAN using an extended or hierarchical star topology; select, install, and test cable; and determine wiring closet locations. Three hours of lecture / two hours of laboratory.

CST* 181 Networking II (CSC 196)   **4 S.H.**

Serves as the second course in a series of four courses that provide classroom and laboratory experience in current and emerging networking technology. This series will empower students to enter the workforce and/or further their education and training in the computer networking field. Instruction includes, but is not limited to, safety, networking, network terminology and protocols, network standards, LANs, WANs, OSI models, ethernet, Token Ring, Fiber Distributed Data Interface, TCP/IP Addressing Protocol, dynamic routing, routing, and the network administrator's role and function. Three hours of lecture / two hours of laboratory. Prerequisite: CST* 180.

CST* 182 Networking III (CSC 205)   **4 S.H.**

Serves as the third course in a series of four courses that introduces new content and extends previously learned networking skills. This series will empower students to enter the workforce and/or further their education and training in the computer networking field. Instruction introduces and extends the student's knowledge of and practical experience in skills related to configuring LANs, WANs, Novell Networks, Internet work Packet Exchange (IPX) routing, Interior Gateway Routing Protocol (IGRP) protocols, and network troubleshooting. Three hours of lecture / two hours of laboratory. Prerequisite: CST* 181.

CST* 183 Networking IV (CSC 206)   **4 S.H.**
Serves as the fourth course in a series of four courses that introduces new content and extends previously learned networking skills. This series will empower students to enter the workforce and/or further their education and training in the computer networking field. Instruction introduces and extends students' knowledge of and practical experience with Wide Area Networks (WANs), Integrated Services Data Networks (ISDN), Point-To-Point Protocols (PPP), and Frame Relay design, configuration, and maintenance. Develops practical experience and skills related to configuring WANs, ISDN, PPP, Frame Relay protocols, and network troubleshooting. Three hours of lecture / two hours of laboratory. Prerequisite: CST* 182.

CST* 188 Networking Fundamentals II   **4 S.H.**
A continuation of CST* 133, this course provides the student with knowledge and skills to administer Local Area Networking concepts beyond the client/server topics of CST* 133. More advanced information on routers, switches, wireless technology, cable management and the new Internet Protocol standard (IPv6) will be discussed. The process of designing and installing a Network are also discussed. Three hours lecture/two hours lab. Prerequisites: CST* 127 and CST* 149.

CST* 234 Network+ (CSC 233)   **3 S.H.**
Prepares students to take the Network+ certification exam from the Computing Technology Industry Association (CompTIA). The Network+ examprovides a challenging test of networking knowledge and skills. This course provides all the information needed to perform key networking installation, configuration, and administration tasks. Prerequisite: CSC* 101.

CST* 273 Security Management Practices   **3 S.H.**
Covers the identification of an organization's information assets and the development, documentation, and implementation of policies, standards, procedures, and guidelines that ensure confidentiality, integrity, and availability. This course will prepare the student to understand the planning, organization, and roles of individuals involved in security, develop security policies, and utilize management tools used to identify threats, classify assets, and rate vulnerabilities. Prerequisites: CSA* 105, CSC* 101 or CET* 116 and ENG* 101.

CRIMINAL JUSTICE

CJS* 101 Introduction to Criminal Justice (CJU 101)   **3 S.H.**
Surveys the evolution, principles, concepts, and practices of law enforcement. The course examines the structure and organization of courts in the administration of criminal justice in the U.S.A. Topics include the American model of criminal justice, police and the community, police and the constitution, and the American legal system.

CJS* 102 Introduction to Corrections (CJU 102)   **3 S.H.**
A study of the history, philosophy, and evolution of corrections. The course examines the following processes used by our courts: probation, parole, treatment programs, and rehabilitation models. Punishment and the functions of our jails and prisons are examined. Additional topics include plea-bargaining, speedy trial, sentencing, prisoner's rights, victimization, and juvenile justice.

DANCE

DAN* 141 Dance: Mind, Body, Spirit   **3 S.H.**
Introduces the processes and materials involved in creating dances. It also requires students to discuss and analyze their own original choreography as well as that of other students. Spontaneity and trust in one's intuitive movement response is encouraged through structures that explore the creative process in dance. An appreciation of dance history and the pioneering spirit of modern dance giants will be studied.

PRE-DENTAL HYGIENE

DNT* 105 Introduction to Dental Hygiene I   **1 S.H.**
Provides students with a survey of contemporary issues encountered by health care professionals. Emphasis is placed upon personal oral self care, dental specialties, ethical and legal aspects of dentistry, an introduction to oral pathology, disease transmission, and infection control, principles and techniques of disinfection and sterilization, and an introduction to the dental hygiene treatment appointment.

DNT* 106 Introduction to Dental Hygiene II   1 S.H.
Continues the study of Dental Hygiene I (DNT* 105) and provides students with a survey of contemporary issues encountered by dental health care professionals. Emphasis is placed on professional standards, health promotion, disease prevention, review of dental specialties and ethical issues that are encountered by dental hygienists. Prerequisite: DNT* 105

DIAGNOSTIC MEDICAL SONOGRAPHY

DMS* 102 Sonographic Physics and Instrumentation I (DMS 122)   3 S.H.
Presents the basic physical principles of sound waves, their applications to the human body, the operation and physical characteristics of the ultrasound transducer, the method by which the sound wave is converted into a visual image, and equipment components and their functions. Some topics include reflection, refraction, scattering, amplitude, intensity, speed, attenuation, impedance, propagation, image artifacts, quality control, and the biological effects of ultrasound. Prerequisites: DMS* 104, DMS* 105, and DMS* 113, PHY* 111. Corequisites: DMS* 103 and DMS* 112.

DMS* 103 Sonographic Imaging (DMS 121)   4 S.H.
Instructs DMS students in scan planes, anatomical positioning, scan protocols, scan preparations, scan scheduling, appropriate history recording, and correlations with other diagnostic procedures. Also presents the techniques required for initiating and completing diagnostic sonographic procedures for abdominal, obstetrical, and gynecological patients. Prerequisites: DMS* 104, DMS* 105, DMS* 111, and DMS* 113. Corequisites: DMS* 102 and DMS* 112.

DMS* 104 Introduction to Abdominal / Small Parts Sonography   3 S.H.
This course prepares students for the clinical aspects of diagnostic medical sonography. Through classroom lectures and handouts, students will learn to function as entry-level employees in the clinical practicum and be able to advance in the profession. Prerequisites: BIO* 211, BIO* 212, and RST* 200. Corequisites: DMS* 105 and DMS* 111.

DMS* 105 Introduction to OB/GYN Sonography   3 S.H.
This course prepares students for the clinical aspects of obstetrics and gynecology. Through classroom lectures and handouts, students will learn to function as entry-level employees in the clinical practicum and be able to advance in the profession. Prerequisites: BIO* 211, BIO* 212, and RST* 200. Corequisites: DMS* 104 and DMS* 111.

DMS* 111 Clinical Practicum I (DMS 112)   1 S.H.
Introduces the clinical components of Diagnostic Medical Sonography with supervised clinical experience in an approved medical facility. Students observe basic scanning techniques, methods, and procedures. Provides experience with patient contact, history interviews, professional attitudes and ethics, and other basic patient/professional situations under the direct supervision of a Registered Diagnostic Medical Sonographer (RDMS). Completion of clinical competency levels and a minimum of 224 clinical hours are required to complete this course. Prerequisites: BIO* 211, and BIO* 212. Corequisites: PHY* 111, DMS* 104, and DMS* 105.

DMS* 112 Clinical Practicum II (DMS 123)   1 S.H.
Continues Clinical Practicum I and covers basic scanning techniques, methods, and procedures as supervised clinical experience in an approved medical facility. Students are introduced to basic sonographic positioning, planes, and terminology. Completion of clinical competency levels and a minimum of 224 clinical hours are required to complete this course. Prerequisites: DMS* 104, DMS* 105, and DMS* 111. Corequisites: DMS* 102 and DMS* 103.

DMS* 113 Clinical Internship I   1 S.H.
Strengthens students' clinical skills with experience in a five-day workweek. Students practice their ultrasound and patient care skills in a hospital. Because the DMS program is competency-based, competencies will be assigned and completed at the clinical site. Prerequisites: DMS* 104, DMS* 105, and DMS* 111.

DMS* 126 Clinical Internship II   2 S.H.
This clinical internship strengthens students' clinical skills with experience in a five-day work week over a longer period of time that the Clinical Internship I. Students will hone their ultrasound and patient care skills in a hospital. Because the DMS program is competency-based, competencies will be assigned and completed at the clinical site. Clinical Internship II runs from the Monday following spring final examinations through the day before the beginning of the new fall session. Prerequisites: DMS* 102, DMS* 103, and DMS* 112.

DMS* 201 Sonographic Physics and Instrumentation II (DMS 211)   **3 S.H.**

This course will include a discussion of basic principles of sound waves and their application in Ultrasound image production. The princiles of Doppler, including instrumentation, transducers, conversion into visual image and artifacts will be discussed. Hemodynamics, as the source of our studies will be discussed. Understanding the mathematical applications of reflection, refraction, scattering, intensity and attenuation is stressed. Recording and archiving techniques as well as display devices will be taught. Review of scientific notation, decibels, artifacts and bioeffects will take place. Laboratory sessions reinforce lectures. Prerequisites: DMS* 102 and DMS* 126. Corequisites: DMS* 203 and DMS* 211.

DMS* 203 Advanced Sonographic Application (DMS 213)   **3 S.H.**

Explores the use of Doppler in B-mode scanning using real time equipment. Applies previously learned normal anatomy to concurrent education on Doppler Physics and Pathology. Iatrogenic, degenerative, inflammatory, traumatic, neoplastic, infectious, obstructive, congenital, metabolic, and immunological pathological processes will be presented with Doppler (Color and Spectral) applications. Presents equipment parameters, various types of specialized equipment, and hard copy documentation devices. Clinical objectives in DMS* 211 will reinforce lectures. Prerequisites: DMS* 102, DMS* 103, and DMS* 126. Corequisites: DMS* 201 and DMS* 211.

DMS* 205 Abdominal Sonography (DMS 223)   **3 S.H.**

Presents a detailed approach to the anatomy, physiology, and pathophysiology of abdominal structures imaged with ultrasound. Includes liver, biliary system, pancreas, and retroperitoneal region. Correlates clinical findings, including laboratory studies, with sonographic findings. Discusses protocol, instrumentation, and scanning techniques. Also discusses anatomy, physiology, and pathophysiology of abdominal and superficial structures imaged with ultrasound, including spleen, superficial structures, and the gastrointestinal and abdominal walls. Discusses proper scanning techniques, protocols, and instrument settings along with clinical, sonographic and laboratory aspirations, biopsies, and intra-operative procedures. Presents proper sterile technique, needle guide use, and post procedure protocol. Prerequisites: DMS* 201, MS* 203, DMS* 211 and RST* 217. Corequisites: DMS* 206, DMS* 208, and DMS* 212.

DMS* 206 Vascular Imaging (DMS 224)   **3 S.H.**

Presents normal scanning techniques, pitfalls, and pathology of the carotid, arterial, and venous systems of the upper and lower extremities. A study packet containing objectives, assignments, worksheets, and handouts, is augmented by the use of such audiovisual aids as videodisc programs, tapes, and diagrams. Covers the basic techniques for imaging the heart using ultrasound. Topics include the use of M-mode, two-dimensional imaging, and Doppler imaging techniques. Prerequisites: DMS* 201, DMS* 203, DMS* 211 and RST* 217. Corequisites: DMS* 205, DMS* 208, and DMS* 212.

DMS* 207 GYN Sonography   **2 S.H.**

Presents a detailed approach to the anatomy and physiology of the female reproductive system. Discussed proper scanning techniques including the sonographic appearance of the female pelvis at various stages of life. Instructs students in the recognition, identification and appropriate documentation of the sonographic appearance of gynecologic disease processes, pathology and pathophysiology and includes: history and physical exam, related imaging, laboratory and functional testing procedures, differential diagnosis, role of ultrasound in patient management, the infertile patient. Prerequisites: DMS* 201, DMS* 203, DMS* 211 and RST* 217.

DMS* 208 Obstetrical Sonography   **3 S.H.**

Explores the dramatic changes in fetal developmental from fertilization to birth. Discusses proper scanning techniques including the sonographic appearance of normal and abnormal fetal anatomy and protocol and proper instrument settings. The pathological conditions relating to obstetrics are discussed including clinical and sonographic findings. Analyzes the proper protocol, pathological conditions and patient care relating to obstetrical examinations, including clinical and sonographic findings.   Prerequisites: DMS* 201, DMS* 203, DMS* 207, DMS* 211 and RST* 217. Corequisites: DMS* 205, DMS* 206, and DMS* 212.

DMS* 211 Clinical Practicum III (DMS 214)   **1 S.H.**

Introduces advanced scanning techniques to demonstrate cross-sectional anatomy and pathology of specific and nonspecific disease and traumatic changes in a supervised clinical experience in an approved medical facility. Specific attention is given to fetal development, fetal anomalies, and abnormal prenatal and maternal conditions as they relate to Sonographic scanning and interpretation of images. Students work under the supervision of an RDMS professional. Students are expected to perform sonographic procedures independently as a regular part of this course. Completion of clinical competency levels and a minimum of 336 clinical hours are required to successfully complete this course. Prerequisite: DMS* 126. Corequisites: DMS* 201 and DMS* 203.

DMS* 212 Clinical Practicum IV (DMS 225) **3 S.H.**
Introduces advanced scanning procedures, methods, and experience in a supervised clinical experiencce in an approved medical facility. Students experience advanced scanning modalities via M-mode, Doppler, Real-time, and invasive procedures. Provides comparative interpretations of sonographic imaging with other diagnostic imaging modalities. Combines scanning experience with radiologist-supervised image interpretation sessions. Students are expected to initiate, perform, and complete all sonographic procedures without the direct supervision of an RDMS. Successful course completion requires achievement of competency levels and a minimum of 336 clinical hours. Prerequisites: DMS* 201, DMS* 203, and DMS* 211. Corequisites: DMS* 204, DMS* 205, and DMS* 206.

DRAFTING (See architecture)

DRUG AND ALCOHOL RECOVERY COUNSELOR

DAR* 101 Public Health Issues: Abuse & Addiction (DAR 101) **3 S.H.**
Students will explore key topic areas in the addictions field such as: models and theories of addiction and recovery; history of legislation and regulation; self-help and evidenced-based approaches to recovery. This course provides a comprehensive overview of public health problems related to substance misuse, abuse and dependence. Study areas include trends in substance use, co-occurring disorders, process addictions, relevant national drug policies, the role of the media, HIV/AIDS and other contagions, domestic violence, fetal alcohol spectrum disorder and costs to society. Students will be introduced to the prevention, harm reduction, and treatment continuum and its application to a public health model. Pre- or corequisite ENG* 101.

DAR* 111 Addiction Counseling I (DAR 111) **3 S.H.**
Students will learn, practice, and develop counseling skills such as attending, reflecting, active listening, and confrontation. This course presents the fundamental theories of addiction counseling and the relationship of theory to skills. Students reflect on their roles as counselors and define the qualities, knowledge, and skills essential to become a competent, ethical, culturally-aware counselor-in-training. Combines didactic and experiential learning. Pre- or corequisite ENG* 101.

DAR* 112 Group Counseling: Theory & Techniques (DAR 112) **3 S.H.**
Introduces the concepts and theories of group counseling, group dynamics, and group developmental stages. Students learn about different types of groups and how groups can be used to treat addiction in a multicultural environment. Students learn to distinguish between and work with group processes and content. Students have the opportunity to examine their own performances as group members and facilitators. Combines didactic and experiential learning. Prerequisite: DAR* 111 and pre- or corequisite ENG* 101 or higher or permission of coordinator.

DAR* 114 Introduction to Family Systems (DAR 114) **3 S.H.**
Presents an overview of the family. Focuses on families with addictions by investigating the family as a system, the family life cycle, multicultural perspectives of family, and family roles and rules. Introduces family counseling theories, goals, strategies, and techniques. Students learn how to complete a genogram and how to use this tool as a counseling strategy. Prerequisite DAR* 111 and pre- or corequisite ENG* 101.

DAR* 117 Substance Abuse Prevention (DAR 117) **3 S.H.**
Provides a comprehensive overview of the prevention field. The course will explore prevention theory and research, models of prevention, performance domains for prevention certification, ethics, cultural competencies, application of theory and research to program planning. Pre or co-requisite: ENG* 101 or permission of coordinator.

DAR* 119 Addiction Counseling in a Correctional Setting **3 S.H.**
Provides an examination of addition treatment across the spectrum of correctional settings. Students will understand the link between addiction and criminal behavior as well as the avenues for entering recovery via the correctional system. Focused study will investigate the evidenced-based treatment approaches that addictions counselors in correctional settings must be capable of implementing. Combines didactic and experiential learning opportunities. Prerequisite DAR* 111 and pre or corequisite ENG* 101 or higher.

DAR* 158 Biology of Addiction (DAR 158) **3 S.H.**
Studies how and why drug abuse impacts both the human body and society. Students are introduced to the process of neurotransmission and learn how each class of psychoactive substances alters neurotransmission and homeostasis. The course examines the consequences of short- and long-term substance use, abuse, and addiction on all major bodily systems and the fetus. Pre- or corequisite ENG* 101.

DAR* 212 Multicultural Addiction Counseling   **3 S.H.**
Students will be introduced to major concepts essential to the understanding of culture, race, and diversity within the context of addiction counseling. Students will develop awareness of their own and others' cultural communication styles as well as values and beliefs regarding the use of substances. Students will practice conducting culturally competent assessments, recovery plans, and counseling skills for the treatment of substance use disorders. Combines didactic and experiential learning opportunities. Prerequisite: DAR* 111 and pre- or corequisite ENG* 101 or higher or permission of coordinator.

DAR* 213 Addiction Counseling II (DAR 213)   **3 S.H.**
Provides an overview of the major counseling theories and figures, including Gestalt, Reality, Person-Centered, and Rational-Emotive. Addresses the techniques and professional practices related to each theory. Theory and practice will focus on such current evidence-based treatment models as Cognitive-Behavioral, Motivational Interviewing, and Solution-Focused. Students apply basic counseling skills developed in DAR* 111 to a variety of evidence-based models and explore the theories and techniques most appropriate to specific treatment settings, client populations, and cultures. Combines didactic and experiential learning. Prerequisite: DAR* 111 and pre- or corequisite ENG* 101 or higher or permission of coordinator.

DAR* 220 Co-Occurring Disorders Counseling   **3 S.H.**
Students will be introduced to major concepts essential to the understanding of co-occurring substance use disorders and mental health disorders. Students will develop awareness of the unique challenges that face clients who are struggling with multiple diagnoses. Students will practice conducting competent assessments, recovery plans, counseling skills and continuum of care issues relevant to the recovery process for this special population. Combines didactic and experiential learning. Prerequisite: DAR* 111 and pre- or corequisite ENG* 101 or higher or permission of coordinator.

DAR* 251 Counseling Internship I (DAR 251)   **6 S.H.**
Provides students with the experience of spending 15 hours per week in a substance abuse treatment facility under the joint supervision of the DARC program and a credentialed supervisor at the facility. Students will observe the treatment process from intake to discharge. Students will observe, practice, and develop competency in the 8 domains of addiction counseling. As students develop increased competence, they will progress from active observers to co-counselors, and then to counselors. To enhance the field experience, students will continue academic study during a weekly seminar. Students will be expected to reflect on their fieldwork, participate in clinical supervision as well as peer group interaction and continue their research in support of counseling theories. Prerequisites: DAR* 101, DAR* 111,

DAR* 112 and DAR* 158; ENG* 101 with a "C" or better within five years and permission of the program coordinator. Internship classes must be completed in consecutive semesters. If a student is unable to complete DAR* 252 in the spring following DAR* 251, DAR* 251 will need to be taken again. *(This is the selective admission component of the DARC program which begins in the fall semester).*

DAR* 252 Counseling Internship II (DAR 252)   **6 S.H.**
Continues DAR* 251; students extend their field placements, working fifteen hours per week in the same substance abuse treatment facility. Students refine their counseling skills and assume increased responsibility for implementing the 8 domains. During the semester, students function as a primary addiction counselor for one or more clients. The classroom component of this internship prepares students for the certification exam and case presentation and allows ongoing personal reflection and growth. Prerequisites: DAR* 251 and permission of the DARC program coordinator. DAR* 252 must be taken in the spring semester immediately following DAR* 251.

EARLY CHILDHOOD EDUCATION

ECE* 101 Introduction to Early Childhood Education (EDU 101)   **3 S.H.**
A study of the historical, philosophical and social perspectives of early education and care. The importance of child development from birth to age eight years is emphasized. Students will observe children and early education and care settings. The course acquaints students with trends in educational settings, curriculum planning based on the knowledge of developmentally appropriate teaching practices and explores the role of the teacher in an early childhood learning environment. Pre-requisite: eligible for ENG* 063 or higher.

ECE* 103 Creative Experiences/Children (EDU 103)   **3 S.H.**
Provides a variety of art experiences suitable for young children. Includes experimentation with and the use of various media, techniques, and methods. Emphasis is placed on the role of creative experiences in early childhood development. The selection of and approach to art experiences, media, and materials is related to the conceptual framework of the course. This ensures that the adult students are directly involved in the creative experience and can effectively lead others to it.

ECE* 106 Music and Movement for Children (EDU 105)   **3 S.H.**
Explores young children's musical growth through singing, rhythmic and dramatic play, use of classroom instruments, recorded music, and the study of children's natural fundamental movements. Teaching strategies will be analyzed through videotapes and film.

ECE* 109 Science and Math for Children (EDU 106)   **3 S.H.**
Prepares teachers to introduce science to young children in the classroom and in the field. Teachers also answer questions on the natural world. Approximately one-third of this course consists of field trips. Topics include ecology, geology, astronomy, and meteorology.

ECE* 110 Using Computers in ECE (EDU 109)   **3 S.H.**
Covers the design and use of microcomputers, including the selection of software used in a variety of regular and special education settings.

ECE* 121 First Aid, CPR, and Medication Administration (EDU 121)   **1 S.H.**
Trains students to handle many basic medical emergencies and outlines procedures to follow in assisting an injured or suddenly ill person until professional emergency medical services can be obtained. It also familiarizes students with the legal aspects of First Aid, CPR, and Medication Administration. Examples are derived from real life situations.

ECE* 123 Introduction to Family Support and Respite Care (EDU 123)   **4 S.H.**
Provides students with the special needs background, communication skills, attitudes, and techniques that will enable them to provide respite for families in crisis. Students learn the laws and dynamics of working with social services agencies to determine families that can benefit from respite care. Students are required to spend fifty hours demonstrating their proficiency in a practical setting. Students are also required to obtain certification in First Aid, CPR, and Medication Administration.

ECE* 141 Infant and Toddler Growth and Development (EDU 115)   **3 S.H.**
Prepares students to care for and teach infants and toddlers. Topics include typical infant and toddler development, developmental domains, and curriculum development and adaptation.

ECE* 142 Developmental Interventions for Infants and Toddlers at Risk (EDU 119)   **3 S.H.**
Presents typical and atypical infant and toddler development. Current issues and trends in family-centered care will be discussed. Intervention techniques and various applications and environments for intervention will be reviewed.

ECE* 176 Health, Safety & Nutrition   **3 S.H.**
Examines the relationship between health, safety and nutrition and child development. Emphasis will be on the strategies needed to implement a safe, healthy and nutritionally sound program. Community agencies and resources that benefit children and families will be explored.

ECE* 180 CDA Credential Preparation (EDU 110)   **3 S.H.**
Designed for childcare providers who wish to obtain a Child Development Associate (CDA) Credential. Students study the national standards for evaluation and accreditation by the Council of Early Childhood Professional Recognition and become familiar with the Direct Assessment System. Students analyze the CDA Competencies and Functional Areas and their integration into child development theory and practice. Coursework assists students to develop their professional resource file, complete other necessary documentation, and prepare for the final assessment process. Students will apply for the CDA Credential with one of the following endorsements: center-based preschool, center-based infant/toddler, family day care, or home visitor.

ECE* 181 CDA Credential Preparation II (EDU 181)   **3 S.H.**
Designed for childcare providers who are preparing for their Child Development Associate (CDA) Credential through the Council for Professional Recognition in Washington, D.C. under its present requirements. The student will attend a weekly seminar and a minimum 30 hours of fieldwork in a licensed early childhood setting. Course instructor will conduct onsite observation visits.

ECE* 205 Creative Activities and Media (EDU 206)   **3 S.H.**
Provides teachers of young children an in-depth involvement in the art experience and an understanding of how art is integral to the curriculum for young children. Emphasizes integrating art experiences with number concepts, reading readiness, literature, social studies, science, and music and movement. Trips to an art gallery and an artist's studio supplement classroom experiences. Prerequisite: ECE* 103.

ECE* 206 Administration and Supervision of Early Childhood Programs (EDU 214) 3 S.H.
Explains the leadership role in the administration and supervision of private, public, and federally funded schools. Addresses the various philosophies, comprehensive programs, methods of managing staff and effective programs, regulations and efficient means of enforcement, and institutional facilities and equipment in a school.

ECE* 210 Observations, Participation and Seminar (EDU 210) 3 S.H.
Promotes objectivity in observing and interpreting children's behavior, allowing observation of developmental characteristics and increasing awareness of typical and atypical patterns of behavior. Observation and participation placements for the study of young children are provided at the GCC Early Learning Center and at area preschools. Students observe and participate in their respective placement locations for sixty hours to gain experience and competency working with young children. Weekly seminars devoted to issues in observing and understanding children's development expand students' observation and participation experiences. Prerequisite: PSY* 122.

ECE* 212 Administrative Leadership in Early Childhood Programs 3 S.H.
Examines the multi-dimensional roles of the early childhood program administrator. Emphasis will be on effective leadership and the impact of communication and interpersonal skills, decision-making and participatory management tools, how to conduct effective meetings, formation of partnerships with families, child welfare advocacy, and strategic approaches to initiating and implementing change.

ECE* 213 Finance for Early Childhood Program 3 S.H.
Focuses on the financial aspects of administering an early childhood program. It will explain and discuss the various aspects of budgeting including tools that are commonly used in all businesses as well as tools that are specific to ECE programs. It will address the "trilemma" inherent to programs with strategies to think about balancing cost, quality and affordability.

ECE* 231 Early Language and Literacy Development (EDU 231) 3 S.H.
Introduces language and literacy development in young children. Students explore early childhood language arts curricula, including speaking, listening, writing, and reading skills. The influence of a child's cultural background and experiences on emerging literacy development is explored. The teacher's role in creating and fostering an environment that engages children in developmentally appropriate language arts experiences will be covered. Course content includes specific strategies for teaching reading and other literacy skills, the role of school-family partnerships in developing literacy, identification of students who are at risk, and reading assessment methods.

ECE* 241 Methods and Techniques for Infant/Toddler (EDU 117) 3 S.H.
Presents both the theoretical knowledge and practical skills necessary to create an infant/toddler curriculum in an inclusive environment. It provides information on how the playful interaction of infants/toddlers with their surroundings helps them to discover what the world is made of, how it works, and what they can do with their emerging skills. Students learn how the routines and organization of a child's inside-outside environment facilitate a child's learning. The successful student will demonstrate a knowledge of program planning and implementation, and an understanding of the role of the physical environment in creating quality development programs for typical and atypical infants and toddlers.

ECE* 295 Student Teaching (EDU 295) 6 S.H.
Provides guided observation of, participation in, and supervised student teaching at NAEYC-accredited centers or kindergartens. The purpose of student teaching is to apply child development theory to a learning environment and to work with children under close supervision. Students will manage a classroom independently and plan, organize, implement, and evaluate classroom activities. Students will complete a minimum of 200 hours of student teaching. Weekly seminars devoted to communicating issues in Early Childhood Education and the teaching experience of students will extend the student teaching experience. Prerequisites: ECE* 101, 210, 231, PSY* 122, SOC* 111.

ECE* 299 Independent Study in Early Childhood Education (EDU 290) 3 S.H.

EARLY CHILDHOOD SPECIAL EDUCATION

ECS* 107 Introduction to Exceptional Children: Seminar I (EDU 107) 4 S.H.
Covers aspects of exceptional children. The following areas are addressed: the exceptional child in modern society; individual differences in special education; talented and gifted children; visually impaired, hearing impaired, and/or behavior disordered children; children with communication disorders; multiple, severe handicaps and/or physical handicaps. This course requires twenty-five hours of field observation and participation in an atypical preschool institution. Various projects are assigned.

ECS* 112 Introduction to Early Childhood Special Education (EDU 112)   3 S.H.
Focuses on early intervention for infants and toddlers from birth through age two and on preschool special education for three- to five-year-old children with disabilities, developmental delays, or seriations in development. This course presents successful interventions for various kinds of children and families. Furthermore, it presents federal legislation pertaining to Early Childhood Special Education that provides funding for the services that young children with disabilities and their families need.

ECS* 113 Creative Art/Play for Exceptional Children (EDU 113)   3 S.H.
Provides adaptive experiences in two- and three-dimensional art activities using everyday materials with an emphasis on process over product. Emphasizes the integration of art projects with math, reading, literature, social studies, and music. Demonstrations, workshop sessions, and visits to art galleries supplement classroom experiences.

ECS* 207 Introduction to Exceptional Children: Seminar II (EDU 207)   3 S.H.
Introduces the field of early childhood special education and offers an overview of typical and atypical child development including programs for and assessment of young children with special needs. Emphasizes the use of play to facilitate the development of cognitive, language, motor, social, and emotional skills.

ECS* 225 Diagnostic Assessment of Children with Special Needs (EDU 225)   3 S.H.
Identifies issues, programs, and procedures related to evaluating infants and preschoolers with handicaps. Describes the overall information gathering process, involving family members in the decision-making process. This process is essential for appropriate instructional or intervention program planning. Describes and introduces various tests. This course is designed specifically for early childhood education students who will eventually plan and implement individualized intervention programs for handicapped infants, toddlers, and preschoolers.

ECS* 226 Curriculum for Exceptional Children: Seminar I (EDU 226)   3 S.H.
Provides current and prospective teachers of young children with an in-depth appreciation and understanding of the need to observe and record children's behavior. The development of appropriate and effective curricula, educational strategies, and institutional settings for exceptional children will be explored to determine how children learn and how best to furnish the settings, materials, and methodology for healthy growth and development.

ECS* 228 Field Observation in Special Education (EDU 228)   3 S.H.
Provides current and prospective teachers with opportunities to work with young children with special needs in preschool or special education settings. The course consists of ninety hours of observation and participation. Students will be required to use behavior modification techniques while working with exceptional children in the classroom. Corequisite: ECS* 226. Prerequisites: ECS* 226, PSY* 122, ECS* 107, ECS* 207, and PSY* 258.

EDUCATION

EDU* 201 Introduction to Teaching Professions   3 S.H.
Provides prospective high school, middle school and art teachers with an introduction to the teaching profession. Students are required to spend a minimum of 40 hours of fieldwork in an approved classroom. Emphasis is placed on the human development during the middle and high school years and theories, history, philosophies, and processes relevant to teaching and learning as a profession. Patterns of learning and unique ways of learning will be explored. Focuses on social-economic, political and ecological factors and their impact on student's learning. Students will have opportunities to observe in multicultural and inclusive classrooms and the opportunity to evaluate their readiness and aptitude to be a teacher.

EDU* 202 Principles of Education   3 S.H.
Provides prospective teachers with an introduction to the teaching profession. Students are required to spend a minimum of 40 hours of fieldwork in an approved classroom. Emphasis is placed on the varied roles that teachers play; the history and philosophy of education; current themes in education; learning theories; classroom management issues; relationship between the schools and community. Students will have opportunities to observe in multicultural and inclusive classrooms and the opportunity to evaluate their readiness to be a teacher.

EARTH SCIENCE

EAS* 102 Earth Science (PSC 113)   3 S.H.
Introduces the four main branches of Earth Science: Geology (solid earth), Oceanography (oceans), Meteorology (weather), and Astronomy (stars and universe). Investigates the dynamic nature of Earth processes to understand human beings' place in the universe.

EAS* 110 The Earth Sciences   **4 S.H.**
Introduces the four main branches of Earth Science: Geology (solid earth), Oceanography (oceans), Meteorology (weather), and Astronomy (stars and universe). Investigates the dynamic nature of Earth processes to understand human beings' place in the universe. Three hours lecture/three hours lab.

ECONOMICS

ECN* 101 Macroeconomics (ECO 101)   **3 S.H.**
Presents major topics in macroeconomics: the roles of saving, investment, consumption, the governmental sector, and the effects of the above on employment and national income. Attention is also given to the fiscal policies and economic growth of developed and developing nations. Prerequisites: ENG* 101, MAT* 075. ECN* 102 strongly recommended.

ECN* 102 Microeconomics (ECO 102)   **3 S.H.**
Evaluates the best available tools of economic analysis to explain the pricing mechanism and structure of markets. Emphasizes the contribution and usefulness of the theoretical methods. Presents supply and demand analysis, the economics of firms, the determination of product and factor prices under varying market structures, and the pricing and employment of resources. Prerequisites: ENG* 101, MAT* 075. Strongly recommended this course be taken prior to ECN* 101.

ELECTRICAL ENGINEERING TECHNOLOGY

EET* 103 Fundamentals of Electricity (ETC 104)   **4 S.H.**
Surveys basic electricity, including generation, measurement, and analysis of networks involving DC and AC sources. The laboratory component includes electrical experiments in basic DC and AC circuits. Three hours of lecture / three hours of laboratory.

EET* 110 Electric Circuits I (EET 120)   **4 S.H.**
Introduces DC and AC circuit fundamentals, including Ohm's Law Kirchoff's Laws power and energy relationships. Students will learn to analyze DC and AC series, parallel, and series-parallel circuits using basic circuit analysis techniques. Students will also learn the fundamentals of capacitors, inductors and transformers and analyze DC and AC circuits with these components. In the lab, students will learn to use instrumentation including power supplies, analog multimeters, digital multimeters, function generators, counters and oscilloscopes. Students will also construct a variety of circuits and utilize basic circuit analysis techniques to analyze these circuits. Three hours of lecture / three hours of laboratory. Prerequisite: MAT* 095 or sufficient score on the mathematics placement test.

EET* 114 Electric Circuits II (EET 122)   **4 S.H.**
Presents advanced network analysis techniques for complex DC and AC circuits. Includes advanced network analysis techniques of mesh analysis, nodal analysis, superposition principle, Thevenin's, Norton's, and maximum power transfer theorems. Students will also learn the fundamentals of current sources, bridge circuits, series and parallel resonant circuits, passive filters and three phase systems. In the lab, students will construct a variety of circuits and utilize advanced network analysis techniques to analyze these circuits. Three hours of lecture / three hours of laboratory. Prerequisite: EET* 110. Corequisite: MAT* 175.

EET* 136 Electronics I (EET 130)   **4 S.H.**
Presents a variety of discrete electronic devices, including diodes, BJTs and FETs, and simple integrated circuits along with their operation and applications. Students will learn how to analyze circuits containing these devices. In the lab, students will construct various electronic circuits with the devices studied and will test and verify the circuits' performance and operation. Three hours of lecture / three hours of laboratory. Prerequisite: EET* 110.

EET* 232 Electronics II (EET 230)   **4 S.H.**
Presents advanced electronic topics and applications including operational amplifiers, voltage regulators, and timer/waveform generators. Students will learn the operation of single- and multi-stage amplifiers, active filters, differential amplifiers, power supplies, and oscillators. In the lab, students will construct various electronic circuits and verify the circuits' performance and operation. Three hours of lecture / three hours of laboratory. Prerequisites: EET* 136 and MAT* 187.

EET* 241 Introduction to Fiber Optics (EET 272)   **4 S.H.**
Presents the principles of fiber optics, including light sources, single-mode, multi-mode, graded index fiber and cabling, connectors, photo-detectors, repeaters, and optical fiber sensors. Students will study various voice, data, and image communications systems using fiber optic networks. In the lab, students will perform experiments to gain hands-on experience with fiber optic components, circuits, and systems. Students will also have the opportunity to construct, test, and evaluate fiber optic communication links for analog and digital signal transmission. Three hours of lecture / three hours of laboratory. Prerequisites: EET* 136 and EET* 252.

EET* 252 Digital Electronics (EET 256)   4 S.H.

Introduces binary and hexadecimal number systems, codes, Boolean algebra, truth tables, logic gates, logic circuitry and Boolean reduction techniques. Students will learn how a variety of digital IC devices operate including flip-flops, one shots, clocks, counters, registers, decoders, encoders, displays, multiplexers and demultiplexers along with their applications. In the lab, students will investigate modern digital applications through hands-on experience. Three hours of lecture / three hours of laboratory. Prerequisite: EET* 110 or Instructor's permission.

EET* 256 Microprocessors (EET 252)   4 S.H.

Presents the programming fundamentals of a particular microprocessor and its instruction set, as well as how to write programs with this instruction set. Students will also learn the architecture of the microprocessor, including the arithmetic-logic unit, registers, flags, bus structure and timing operations. Interfacing techniques to memory and input/output devices will also be introduced. In the lab, students are introduced to both a microprocessor trainer and a microprocessor simulator and will learn how to use this trainer to write, test and troubleshoot a variety of programs using arithmetic, logic, and branch instructions. Three hours of lecture / three hours of laboratory. Prerequisite: EET* 252.

EET* 262 Electrical Machinery and Control (EET 240)   4 S.H.

Introduces students to the electrical energy industry with a concentration on the principles of DC and AC magnetic circuits, focusing on electrical machinery, including DC generators and motors, AC single and polyphase alternators and motors, and power transformers. Students will learn basic electrical machine control procedures, including programmable logic controllers and the use of other solid-state control devices. In the lab, students will perform experiments to gain hands-on experience with DC and AC magnetic circuits and basic electrical machines and controls. Students will learn to operate, test, assemble, and disassemble machines, prepare characteristic operating curves, and use programmable logic controllers for industrial control applications. Three hours of lecture / three hours of laboratory. Prerequisites: EET* 114, EET* 136, and MAT* 187.

EET* 272 Electronic Communications (EET 260)   4 S.H.

Presents modern electronic communications based on an informational and circuit/systems framework. Students will learn the concepts of noise considerations, bandwidth, and propagation requirements, and AM and FM modulation techniques for the transmission and reception of RF signals. In the lab, students will perform experiments to gain hands-on experience in the design, construction, testing, and evaluation of the various circuits and sub-systems that comprise a communications system. Students will also learn how to combine computer simulation with bench experimentation and will learn instrumentation, waveform analysis, and circuit system performance related to modern electronic communications. Three hours of lecture / three hours of laboratory. Prerequisite: EET* 232.

EET* 296 EET Internship (EET 295)   3 S.H.

Provides first-hand, real-life work experience in the electronics industry. Establishes internships in the fields of electrical energy production and distribution, telecommunications, electronic fabrication and assembly, electrical machinery and controls, and electronic information systems and equipment. Students are matched with internships based on skills, interests, and recommendations. Students report to a worksite once per week during the academic term and complete an Internship Evaluation Form and Narrative Report on their experience.

ELECTRONIC PUBLISHING/WEB DESIGN

DGA* 120 Digital Imaging I (EPC 122)   3 S.H.

Introduces color and color theory. Presents techniques for the digital manipulation of photographs and output for printing using Photoshop on the Macintosh computer. Discusses flat and process color. One hour of lecture / two hours of laboratory.

DGA* 124 Digital Imaging II (EPC 125)   3 S.H.

Through lectures, demonstrations, and assignments, the instructor will focus on new, advanced techniques using popular software packages in order to create well-designed pieces. Design elements and principles will be stressed. Prerequisites: DGA* 223 and DGA* 120 or instructor's permission.

DGA* 130 Typography (EPC 110)   2 S.H.

Introduces typography and typography design. Emphasizes the relationship of type to context, space, audience, and method of printing. Stresses fundamentals of balance, proportion, and design.

DGA* 223 Digital Illustration (EPC 120)   3 S.H.

Requires students to solve visual problems using the graphics application program Adobe Illustrator. Discusses types of graphic images, graphics programs, and file formats. One hour of lecture / two hours of laboratory.

DGA* 231 Digital Page Design I (EPC 112)   **4 S.H.**
Provides a hands-on introduction to desktop publishing. It introduces the study of electronic publishing on the desktop using the Macintosh computer. Students will be introduced to desktop publishing concepts to design, build, edit and enhance publications. The student will use the computer, scanner and laser printer to produce camera ready copy for flyers and advertisements. Students will use QuarkXPress, a page layout program.

DGA* 232 Digital Page Design II (EPC 212)   **3 S.H.**
Students will use the computer, scanner and laser printer to produce camera-ready copy brochures and other publications. Students will use QuarkXPress, a page layout program. This course will be a continuation of Digital Page Design I. Advanced techniques and more advanced projects will be assigned.   Two hours lecture / two hours laboratory. Prerequisites: DGA* 231.

DGA* 241 Internet Web Design I (EPC 128)   **3 S.H.**
Introduces basic design principles in order to create layouts using both traditional and electronic methods. Students will use text, image, and color to create layouts for both print and the web. Emphasizes project development and presentation.

DGA* 243 Web Design II (EPC 141)   **4 S.H.**
Encourages students to use their own creativity to design a website. Adobe Photoshop and Adobe Illustrator will be used to create graphics, special effects, and animation for the web. HTML, as well as such web design programs as Macromedia Dreamweaver and Adobe GoLive, will be used. Three hours of lecture / two hours of laboratory. Prerequisites: DGA* 223 and DGA* 120 or instructor's permission.

ENGINEERING SCIENCE

EGR* 111 Introduction to Engineering   **3 S.H.**
Introduces students to the fields of engineering through design and graphics and comprehensive engineering projects. Topics include: sketching, charts, graphs, forces, energy, electrical circuits, mechanisms, robotics, manufacturing technologies and fundamentals of engineering economics. Prerequisites: MAT* 137 with a C- or better.

EGR* 131 Introduction to Nanotechnology   **3 S.H.**
Designed to give participants who have little or no knowledge of nanotechnology a broad overview of the field in a non-technical manner. Lectures will present the fundamental ideas behind nanoscience and nanotechnology. Beginning with the definition of a nanometer, discussions will continue through how nanotechnology will affect business and industry; basic processes that are currently used in nanotechnology; the economic impact of this emerging field; environmental concerns in the near and long-term; NEMS/MEMS; imaging devices; polymers; biomolecules; nanowires; nanotubes; fullerenes; and other carbon nanostructures. Participants will be expected to read the material, share data obtained from the class discussion and prepare additional nanotechnology oriented projects/papers and presentations. Prerequisites: MAT* 075, ENG* 073. Corequisite: CET* 116.

EGR* 211 Engineering Statics (EGS 211)   **3 S.H.**
Presents the fundamentals of statics, including the resolution and composition of forces, the equilibrium of force systems, the analysis of forces acting on structures and machines, centroids, and moment of inertia. Uses vector methods and computer applications. Prerequisite: CET* 124. Corequisite: MAT* 268.

EGR* 212 Engineering Dynamics (EGS 212)   **3 S.H.**
Presents a basic engineering course in dynamics, covering rectilinear and curvilinear motion, translation, rotation, plane motion, work, energy and power, and impulse and momentum. Applies the principles of dynamics to engineering problems using vector methods and computer applications. Prerequisites: EGR* 211 and MAT* 268.

EGR* 221 Introduction to Electrical Circuit Analysis   **3 S.H ***
*(Course has not been offered in the past two years)
Analyzes electrical networks incorporating passive and active elements through basic laws and techniques. Covers transient and forced responses of linear circuits, periodic excitation, and frequency response. This is a required elective for Engineering Pathway students majoring in either Electrical/Systems Engineering or Computer Science/Engineering. Prerequisites: EGR* 211 and PHY* 221. Corequisite: MAT* 285.

ENG* 043 Writing: Paragraph to Essay (ENG 100)   3 S.H.*
Focuses on the paragraph, its structural characteristics and developmental modes, and leads to the essay. Reviews grammar, sentence structure, punctuation, mechanics, and usage. Emphasizes revising, editing, and proofreading. *Credit does not count toward meeting degree requirements. Placement: Determined by ACCUPLACER. Students who place into ENG* 043 are highly recommended to co-register also for ENG* 073 or 082 (depending on placement score). Exit Criteria: A grade of "C" or better or instructor recommendation.

ENG* 063 Writing: Introduction to the Essay (ENG 101)   3 S.H.*
Continues the study of paragraph development. Extends students' abilities to write clearly, fluently, and correctly while introducing more fully the process of developing an essay. Incorporates readings on critical analysis, modeling, and topic generation. *Credit does not count toward meeting degree requirements. Placement: Determined by ACCUPLACER or a pre-requisite grade of "C" or better in ENG* 043. Highly Recommended: Students who place into ENG* 063 should co-register also for ENG* 073 or 082 (depending on placement score). Exit criteria: "C" or better and instructor's recommendation.

ENG* 073 Academic Reading (RDG 100)   3 S.H.*
Introduces active reading strategies to achieve comprehension and retention rates demanded by college reading. Students learn to recall, question, interpret, and analyze an extensive selection of academic material. Increases vocabulary. *Credit does not count toward meeting degree requirements. Placement: Determined by ACCUPLACER. Highly Recommended: Students who place into ENG* 073 should co-register also for ENG* 043 or 063 (depending on placement score). Exit Criteria: "C" or better and instructor recommendation.

ENG* 082 Academic Reading   3 S.H.*
Enhances and refines active and in-depth reading strategies. Improves the students' ability to comprehend texts in college level courses across the curriculum. Emphasizes reading comprehension skills, vocabulary development and summary/synthesis/critique skills from academic reading selections. Placement: determined by ACCUPLACER. **Highly Recommended**: Students who place into ENG* 082 should co-register also for ENG* 043 or 063 (depending on placement score). **Exit criteria:** A grade of "C" or better or instructor recommendation. * Credit does not count toward meeting degree requirements.

ENG* 101 Composition (ENG 120)   3 S.H.
Develops strategies for college-level writing through the critical study of various rhetorical modes. Emphasizes the development of carefully reasoned essays that cite appropriate evidence to support conclusions. Develops library and research skills required for composition and communication. Students will write a number of short expository papers and a longer research paper incorporating MLA documentation techniques. Prerequisites: Sufficient score on the placement test or successful completion of ENG* 063, ESL* 161 and ESL* 178 with a grade of "C" or better (or instructor recommendation). (If students place into both ENG* 063 and ENG* 073 or ENG* 082, *they must successfully complete both before taking ENG* 101.)*

ENG* 102 Literature and Composition (ENG 122)   3 S.H.
Emphasizes critical reading and writing by surveying such literary genres as poetry, prose, drama, and fiction. Introduces literary techniques, terminology, conventions, and devices. Students will write a number of short critiques in which they respond to, analyze, and interpret selections from a literature anthology. They will also write a longer literary research paper incorporating MLA documentation techniques. Prerequisite: "C" or better in ENG* 101.

ENG* 114 Children's Literature (ENG 107)   3 S.H.
Develops students' knowledge of and appreciation for children's literature. Students will explore children's stories and the components of good children's literature by investigating the interrelationship of literary content and form. By developing a personal bibliography, students will investigate the wealth of children's literature available today. This course also assists teachers to promote a comprehensive, creative, and insightful utilization of literary materials in their classes. Examples of incorporating children's literature in learning include choral reading, storytelling, creative dramatization, role-playing, and use of music and movement.

ENG* 193 Study and Critical Thinking Skills   3 S.H.
Helps students, through substantive readings, structured writing assignments, and ongoing discussions, enhance their ability to: solve problems; analyze issues; make informed academic; career; and personal decisions through a process of effective an clear critical thinking.

ENG* 195 Critical Reading Strategies for Expository Imaginative Literature (RDG 110)   3 S.H.
Presents various types of fiction and nonfiction, covering a broad spectrum of content areas. Reviews basic vocabulary and comprehension skills and focuses on patterns and strategies needed for productive college reading. Includes reading for research.

ENG* 196 Scientific and Technical Reading Strategies (RDG 111)   3 S.H.
Develops comprehension of scientific and technical texts. Focuses on the patterns and vocabulary found in this specialized literature, and promoting active reading strategies through extensive critical analysis and synthesis.

ENG* 200 Advanced Composition   3 S.H.
Develops and refines the advanced skills in composition that are essential for both academic and professional writing. Emphasis will be on writing from various sources including texts and online material. The focus of student writing will include exposition, argumentation and a research paper using various documentation styles (including but not limited to MLA, APA, CBE and Chicago). Prerequisite: ENG* 101 (minimum of a C grade).

ENG* 202 Technical Writing (ENG 230)   3 S.H.
Addresses the conventions of technical writing. Introduces the purposes, developmental strategies, and formats of technical documents. Covers audience analysis and adaptation, document organization and design, graphics, and research documentation methods. Stresses a readable style in all professional writing. Requires a series of short reports, a collaborative project, and a major research paper. Prerequisite: ENG* 101.

ENG* 210 Fiction (ENG 222)   3 S.H.
Surveys short stories and novelettes whose themes are not limited by the possible or probable. Focuses on critical literary interpretations, including the characteristics, conventions, and devices of authors ranging from Poe and Hawthorne, through Clarke and Asimov, to LeGuin and Farmer. Stresses logical and supportable reader response in both class discussions and analytical essays. Required reading includes one major novel. Prerequisite: ENG* 101.

ENG* 211 Short Story (ENG 218)   3 S.H.
Focuses on representative works by such North American short story writers as Wright, Thurber, Vonnegut, Porter, and Hemingway. Requires writing assignments in response to assigned texts. Prerequisite: ENG* 101.

ENG* 214 Drama (ENG 203)   3 S.H.
Surveys dramatic literature from ancient Greece through the modern and contemporary periods. Introduces theatrical terminology, techniques of script analysis, and critical approaches to theatrical productions. Includes screenings of selected cinematic interpretations. Encourages, whenever possible, attendance at area theatrical productions. Prerequisite: ENG* 101.

ENG* 221 American Literature I (ENG 201)   3 S.H.
Surveys American literature from its beginnings to the mid-nineteenth century. Examines a variety of forms, including journals, autobiographies, essays, poems, sermons, histories, and statecraft. Includes selections from such authors as Jefferson, Thoreau, Whitman, Dickinson, and Poe. Prerequisite: ENG* 101.

ENG* 222 American Literature II (ENG 202)   3 S.H.
Surveys American literature from the mid-nineteenth century to the present. Examines the poetry and prose (both fiction and nonfiction) characteristic of the period of expansion and industrialization. Also presents the literature of the twentieth century. Includes selections from such authors as Twain, Cather, Baldwin, and Miller. Prerequisite: ENG* 101.

ENG* 231 British Literature I (ENG 207) (Course has not been offered in the past two years)   **3 S.H.**
Surveys representative works of British literature from the Anglo-Saxon period through the eighteenth century. Includes poetry, prose, drama, and fiction by such authors as Chaucer, Shakespeare, Milton, Pope, and Swift. Prerequisite: ENG* 101.

ENG* 232 British Literature II (ENG 208)   3 S.H.
Examines representative works of poetry, prose, drama, and fiction from Blake to the present, covering the Romantic, Victorian, Modern, and Contemporary periods of British literature. Includes works by such authors as Wordsworth, Dickens, Tennyson, Woolf, and Larkin. Prerequisite: ENG* 101.

ENG* 245 Early Western Literature   3 S.H.
A survey of European literature from ancient Greece and Rome to the Renaissance, studying such works as the epics of Homer, *The Bible*, the tragedies of Aeschylus and Sophocles, Plato, St. Augustine, *The Koran,* Dante, and Chaucer. Prerequisite: ENG* 101 or instructor's permission.

ENG* 246 Modern Western Literature   **3 S.H.**
A survey of European literature from the Renaissance to the present. Includes such authors as Montaigne, Cervantes, Goethe Ibsen, Chekhov, and Woolf. Prerequisite: ENG* 101 or instructor's permission.

ENG* 251 African-American Literature (ENG 216)   **3 S.H.**
Presents literature about the African-American experience. Focuses on accounts of the colonial slave trade, the plantation experience, the abolition movement, the Reconstruction Era, and the Harlem Renaissance. Includes works by such emerging writers as Walker, Morrison, Gaines, and Jordan. Prerequisite: ENG* 101 or instructor's permission.

ENG* 254 Modern Arabic Literature   **3 S.H.**
An introduction to contemporary Arabic literature in translation including poetry, short stories, drama, novellas and novels. The works of both male and female voices will be explored from many Arab countries including Algeria, Egypt, Lebanon, Jordan, Iraq, Sudan, Saudi Arabia, Syria, United Arab Emirates and Yeman. Prerequisite: A grade of C or better in ENG* 101.

ENG* 262 Women in Literature (ENG 217)   **3 S.H.**
Examines women in literature by both male and female writers throughout the centuries. Approaches various genres from critical, cultural, and historical perspectives. Analyzes the stages, circumstances, and conditions of women's lives in a broad spectrum of literary expression. Includes a critical writing component. Prerequisite: ENG* 101.

ENG* 270 Humanities: The Creative Voice   **3 S.H.**
Defines art in its broadest sense (visual, performance, and media arts, as well as literature, music and philosophy); explores the nature and theories of creative expression. Asks students to idenfify and evaluate art forms and in the process see relationships and make connections between various forms of creative expression. Engages students to explore their own creative process. Prerequisite: ENG* 101, ENG* 102 (suggested).

ENG* 271 Film and Literature (ENG 210)   **3 S.H.**
Studies the unique forms of film and literature by reading selected novels and plays and by viewing films adapted from them, followed by a critical discussion of both. Prerequisite: ENG* 101 or instructor's permission.

ENG* 272 History of Film (ENG 206)   **3 S.H.**
Surveys the history of film from its beginning to the present. Emphasizes the development of forms and techniques, production methods, and film's relationship to other arts and to social/political currents. Focuses on critical analysis and discussion of selected contemporary films illustrating aesthetic principles that govern cinematic value and meaning. Prerequisite: ENG* 101.

ENG* 281 Creative Writing (ENG 212)   **3 S.H.**
Introduces the major writers of contemporary American Letters. Serves as a cooperative writing workshop to evaluate student writing. Encourages commitment to the writing process: revision, development, discipline, and the satisfaction of accomplishment. Studies each of the writing genres, allowing students to select their own medium for a course project. Prerequisite: ENG* 101.

ENGLISH AS A SECOND LANGUAGE

Placement is based on the results of an ESL Placement Test, including a writing sample. Four levels of integrated skill courses are offered: Intermediate ESL 141 and 151 and Advanced ESL 161. All are designed to develop listening, reading, speaking, and writing skills. Students entering Intermediate ESL 141 must have fundamental skills in English. After successful completion of the Intermediate ESL 141 and Intermediate ESL 151 levels, students may be required to take concurrent additional specialized ESL courses in Reading, Writing, Technical English, and Pronunciation, along with the Advanced 161. *Students intending to take ENG* 101 or COM* 171 must receive a grade of "C" or better in ESL* 161 and ESL* 178.*

ESL* 139 Pronunciation III (ESL 124)   **3 S.H.**
Addresses the problems of pronunciation using the concepts of rhythm, intonation, and thought grouping. Students perform speaking activities, practicing the concepts and integrating exercises for listening practice. Students will perform a final speech exercise involving the basic concepts presented in the class. This course satisfies the Foreign Language requirement. *(This course may be taken concurrently with any ESL* course.)*

ESL* 141 Integrated Skills IV (ESL 111)   **3 S.H.**
Develops fluency in the English language. Focuses on reading, writing, grammar, speaking, and listening comprehension on typical topics stressed in class, small groups, and individual practice. Prerequisite: sufficient score on the ESL Placement Test. This course satisfies the Foreign Language requirement. *(This course may be taken concurrently with ESL* 139 and ESL* 143).*

ESL* 143 Writing and Reading IV   **3 S.H.**
Designed to help students with academic English writing skills ont he high-beginning level involving work at the level of sentences and development of a basic paragraph. Early writing assignments will focus on sentence development, development of topic sentences and supporting sentences. Additional assignments will focus on paragraph development and organization. Focus will be the entire writing process; planning, editing, and revising. Students will be able to ask questions about their writing which will lead to improvements. Pre-requisite: ESL Placement score of 45-65. Co-requisite: ESL* 139 or ESL 141.

ESL* 144 Pronunciation IV   **3 S.H.**
Focuses on studying and applying advanced techniques of American pronunciation using the basic concepts of rhythm, intonation and thought grouping. Students perform speaking activities to achieve an accent which is understandable to others in a professional and academic environment. This course satisfies the Foreign Language requirement. Prerequisite: ESL* 139

ESL* 151 Integrated Skills V (ESL 120)   **3 S.H.**
Refines use of idiomatic expressions while continuing to build fluency in all English language skill areas. Focuses class discussions, presentations, and assignments on multiple themes. Prerequisite: ESL* 141 or sufficient score on the ESL placement Test. This course satisfies the Foreign Language requirement and may also be used as Humanities elective credit toward graduation. *(This course may be taken concurrently with ESL* 139, ESL* 159 and ESL 180).*

ESL* 159 Writing V (ESL 100)   **3 S.H.**
Improves writing skills for use in both college and the workplace. Focuses on the writing process through group work and individual conferences with the instructor. Focuses on computer online writing development. Prerequisite: ESL* 141 or sufficient score on the ESL Placement Test. This course satisfies the Foreign Language requirement. (*This course may be taken concurrently with ESL* 131, ESL* 139, ESL* 141 and ESL* 151).*

ESL* 161 Integrated Skills VI (ESL 121)   **3 S.H.**
Advances English language skills through small group and individual instruction. Stresses multicultural themes through readings, class discussions, and oral presentations. Prerequisites: ESL* 159, ESL* 180, and ESL* 151, or sufficient score on the ESL Placement Test. *Students intending to take ENG* 101 or COM* 171 must receive a grade of "C" or better.* This course satisfies the Foreign Language requirement and may also be used as Humanities elective credit toward graduation. *(This course may be taken concurrently with ESL* 139, ESL* 144, ESL 169 and ESL* 180).*

ESL* 169 Writing VI (ESL 102)   **3 S.H.**
Improves general writing skills in academic English, involving short essay assignments. Early writing assignments will focus on essay development and organization. Focuses on computer online writing development. Prerequisites: ESL* 159, ESL* 180, and ESL* 151, or sufficient score on the ESL Placement Test. This course satisfies the Foreign Language requirement. *(This course may be taken concurrently with ESL* 139, ESL* 144, ESL* 161 and ESL* 180).*

ESL* 178 Advanced Reading and Writing   **3 S.H.**
Designed to focus on the academic reading and writing process. Students will interact with various types of texts through reading and writing. Emphasis will be given to critical reading strategies and analysis of texts to help students refine their ability to interpret and summarize what they have read through the synthesization of ideas in essay development and organization. Focuses on computer online writing development. Prerequisite: Appropriate score on ESL placement or completion of ESL* 161 and 169 or recommendation of ESL Instructor or Coordinator. *Students intending to take ENG* 101 or COM* 171 must receive a grade of "C" or better.*

ESL* 180 Reading V (ESL 101)   **3 S.H.**
Focuses on reading comprehension skills, including phonics, use of dictionaries, words in context, main ideas, and supporting details in academic texts. Incorporates readings that reflect multiculturalism and the college experience. Prepares students for degree programs and/or taking the TOEFL exam. Prerequisite: ESL* 141 or sufficient score on the ESL Placement Test. This course satisfies the Foreign Language requirement. *(This course may be taken concurrently with ESL* 139, ESL* 144, ESL* 159, ESL* 169, ESL* 151 and ESL* 161).*

ESL* 191 Technical English VI (ESL 125)   **3 S.H.**
Integrates technical vocabulary into reading, writing, speaking, and listening comprehension. Concentrates on specific technical subjects. Prerequisite: ESL* 141 or sufficient score on the ESL Placement Test. This course satisfies the Foreign Language requirement. *(This course may be taken concurrently with ESL* 139, ESL* 169, ESL* 161 and ESL* 180).*

ESL* 250 TESOL Methodology (ESL 250)   **3 S.H.**
Introduces the theories of second language learning and demonstrates practical applications of these theories. Provides the opportunity to learn new techniques for teaching English and to do field work at all levels of ESL. This course satisfies the Connecticut state requirements for ESL Certification K-Adults.

EVS* 100 Introduction to Environmental Science (TOX* 210)   **3 S.H.**
Examines the conceptual basis for today's environmental programs. Emphasizes water, solid waste, hazardous waste, air pollution, and local land use decisions by focusing on the biological, chemical, and physical aspects of environmental pollution, energy, and relationships between the environment and society. Considers environmental ethics, law, and relationships between environment, economics, and government. Field trip(s) required.

EVS* 101 Environmental Issues (TOX* 230)   **3 S.H.**
Presents current statewide, national, and global environmental issues. Issues include world population growth, sustainable lifestyles, energy, global warming, the 1992 Clean Air Act Amendments, preserving biological diversity, pesticides, hazardous waste, and water management. Recommended for both technical and non-technical major students who would like to develop an appreciation for environmental science from a global perspective. Includes extensive use of case studies and group work.

EVS* 103 Ecology (TOX* 114)   **3 S.H.**
Highlights the interrelationships between plants and animals and the physical factors of their environment. Covers the physical and biological environments, energy flow and biogeochemical cycles, evolution, speciation, dispersal, communities, and population. Includes some in-class laboratory work.

EVS* 118 Biochemistry / Organic Chemistry (TOX* 118)   **4 S.H.**
(Course has not been offered in the past two years**)**
Builds on the skills acquired in CHE* 111 by covering such additional inorganic concepts as solutions, chemical reactions, and biochemistry/organic chemistry, including hydrocarbons, carbohydrates, organic acids, enzymes, and metabolism. Three hours of lecture / three hours of laboratory. Prerequisite: CHE* 111.

EVS* 200 Toxicology (TOX* 200)   **3 S.H.**
Focuses on toxicological principles, including FDA requirements relating to new drugs. Addresses environmental and other factors affecting the toxicity of therapeutic agents, mechanisms of toxicity, and clinical applications. Prerequisite: EVS* 102.

EVS* 221 Qualitative and Quantitative Field and Laboratory Analysis I (TOX* 214)   **4 S.H.**
Introduces instrumental analysis commonly used in environmental monitoring and toxicological studies and investigations. Also introduces field techniques used for sample collections necessary to meet today's state and federal standards. Emphasizes the specific methods of analyzing significant toxic substances and environmental pollutants. Three hours of lecture / three hours of laboratory. Prerequisite: One college-level biology laboratory course and one college-level chemistry or physics laboratory course or instructor's permission.

EVS* 222 Qualitative and Quantitative Field and Laboratory Analysis II (TOX* 222)   **4 S.H.**
Builds on the knowledge of field and analytical methods learned in TOX 214 by focusing on such complex techniques as atomic absorption and spectrophotometric and chromatographic instruments. Three hours of lecture / three hours of laboratory. Field work required. Prerequisite: EVS* 221.

EVS* 252 Community Health / Environmental Problems (TOX 212)   **3 S.H.**
Examines the many factors that can affect the health of human communities. Emphasizes the interconnection between the workplace, natural environments, and human health by examination of both acute and chronic effects of pollutants.

EVS* 296 Environmental Science & Toxicology Internship (TOX* 160)   **4 S.H.**
Places students in a suitable internship in an industry of interest.

ENV* 100 Introduction to Alternative Energy Systems   **3 S.H.**
Prepares students to compare and contrast alternate energy systems and traditional energy systems. Will introduce energy systems terminology, safety, energy sources, alternate energy systems and computer applications (LabVIEW & AutoCAD). Two hours lecture / two hours lab.

ENV* 110 Environmental Regulations (CHE* 114)   **3 S.H.**
Presents a broad view of federal, state, and municipal environmental regulations as they apply to industry, commercial establishments, local governmental facilities, and the individual citizen. Reviews elementary chemistry. Provides a practical approach to regulatory understanding to plan an effective and economically sound compliance program. Course topics also include the Clean Air Act (CAA); the Clean Water Act (CWA); the Water Toxins Program; the Resource Conservation and Recovery Act (RCRA); the Toxic Substance Control Act (TSCA); SARA Title III (Community Right-to-Know); and federal, state, and local regulations covering such topics as hazardous material transportation, in-ground tank storage, and such specific hazardous materials as asbestos and PCBs.

ENV* 181 Solar Thermal Systems   **3 S.H.**
Introduces the history and principles of solar thermal energy as used for heating air and water in residential applications. Topics include historical uses of the sun, solar fundamentals, site analysis, basic thermal dynamics, simple uses of solar-heated fluids and "hands-on" testing and overview of various system components with an emphasis on workplace safety and best practices used in the installation of solar domestic hot water systems. Format includes classroom lecture, laboratory exercises and field trips to actual installations. Two hours lecture / two hours lab. Pre-requisites: MAT* 075 or sufficient score on the placement test.

ENV* 182 Solar Photovoltaic Systems I   **3 S.H.**
Introduces the history and principles of Photovoltaics (solar electricity) as used in direct-coupled, remote, and grid-tied residential applications. Topics include historical use of the sun, solar fundamentals, site analysis, DC electricity basics and "hands-on" testing and overview of various system components of a basic PV installation with a continual emphasis on workplace safety and electrical code compliance. Format includes classroom lecture, assigned exercises, topical workshops and a field trip to an actual installation. Two hours lecture / two hours lab. Pre-requisites: MAT* 095 or sufficient score on the placement test.

ENV* 230 Environmental Engineering (WMT 214)   **3 S.H.**
Develops quantitative solutions to environmental problems concerning public health, air and water pollution, water and wastewater treatment, and solid waste management. Applies engineering methods to environmental preservation and protection. Prerequisites: WWT* 110, WWT* 112, WWT* 114, and WWT* 116, or State of Connecticut Wastewater Certification Levels I and II.

ENV* 237 Pollution Prevention (TOX* 226)   **3 S.H.**
Presents the many steps being taken by governmental, commercial, industrial, and educational facilities to eliminate pollutant discharges. Pollution prevention (i.e., preventing the discharge of pollutants to eliminate the need for treatment and discharge into the air, ground, or water of a "waste stream") has become a very important part of modern environmental protection. Field trip required. Prerequisite: EVS* 100 or instructor's permission.

EXERCISE SCIENCE AND WELLNESS

EXS* 101 Introduction to Exercise Science and Wellness   **3 S.H.**
An introduction to the fitness industry, the various career options available and the analysis of current and future industry trends. Analyzes the history of the field and the role of fitness specialists in society today.

EXS* 102 Seminar in Exercise Science and Wellness   **3 S.H.**
Discusses an ever-changing range of exercise and wellness topics, their effects on the individual, the industry and society.

EXS* 115 Fitness Management   **3 S.H.**
Presents the development and operations of a successful health and fitness business including management, marketing, sales, human resources, legal issues and more.

EXS* 210 Exercise Science & Wellness Internship I   **1 S.H.**
Develops basic skills and compentence in a variety of topics and settings including but not limited to exercise and wellness programming, workplace wellness, and fitness centers programming operation. Students participate in 150 hours of clinical work further developing their knowledge, skills and abilities as fitness professionals. Students must possess a current Adult First Aid and CPR certification that has a practical skills examination component (such as the American Heart Association or the American Red Cross). Prerequisites: EXS* 101 and 102. Corequisite: EXS* 115.

EXS* 212 Exercise Science & Wellness Internship II   **1 S.H.**
Refines students' skills in the development, marketing and management of exercise programming. Students participate in 150 hours of supervised field experience. Students must possess a current Adult First Aid and CPR certification that has a practical skills examination component (such as the American Heart Association or the American Red Cross). Prerequisites: EXS* 210, 225 and 227.

EXS* 225 Essentials of Strength and Conditioning   **3 S.H.**
Practical application of the scientific principles behind the aerobic and anaerobic adaptations of training and various exercise forms and how they relate to different populations and their fitness goals. Exercise prescription and adaptation with regard to cardiovascular, resistance and specialty training. Prerequisite: BIO* 211. Corequisite: BIO* 212.

EXS* 227 Exercise Programming & Design   **3 S.H.**
Implementation of cardiovascular, resistance, stability, and flexibility programs based on fitness assessments, client goals, and contraindications. Methods of training special populations, including obesity, pregnancy, youth and seniors. Students will analyze the specific needs and concerns of each and how to best work with each sector. Prerequisite: BIO* 211, pre- or corequisite: EXS* 225.

EXS* 235 Exercise Physiology   **3 S.H.**
Focuses on the physiological factors affecting human performance in exercise and activity with special focus on the muscular, cardiovascular and circulatory systems under the effects of exercise through lecture and lab experiences. Prerequisites: BIO* 211, BIO* 212.

FIRE TECHNOLOGY and ADMINISTRATION

FTA* 112 Introduction to Fire Technology (FTA 112)   **3 S.H.**
Reviews the nature and extent of the fire problem in the U.S.A. Covers the characteristics and behavior of fire. Reviews the state, regional, national, and international organizations responsible for fire control and suppression. Introduces extinguishing agents, fire protection equipment, and other basic aspects of fire protection technology.

FTA* 116 Building Construction (FTA 116)   **3 S.H.**
Presents the major types of building construction and their respective fire problems, including fire resistance and flame spread test methods. Prerequisite: FTA* 112.

FTA* 118 Fire Prevention and Inspection (FTA 118)   **3 S.H.**
Surveys the history and philosophy of fire prevention. Introduces the organization of fire prevention and inspection, including inspector training, inspection methods, reports and record keeping, fire prevention education, public relations in inspection work, coordination with government agencies, and code administration.

FTA* 210 Water Supply and Hydraulics (FTA 210)   **3 S.H.**
Introduces the basic properties of incompressible fluids, static and velocity pressures, and flow-through orifices. Covers Bernoulli's Theorem, the Venturi principle, flow of water through pipes, Reynolds number, and the Hazen-Williams formula. Discusses head calculations, water distribution systems, and pumping problems. Prerequisite: MAT* 175.

FTA* 213 Codes and Standards (FTA 213)   **3 S.H.**
Presents fire and building codes as a means to provide reasonable public safety. Introduces code development and adoption processes and code administration. Reviews major regulatory organizations and national standards, emphasizing the Life Safety Code of the NFPA and its referenced standards.

FTA* 216 Municipal Fire Administration (FTA 216)   **3 S.H.**
Presents the organization of municipal fire prevention and control services. Analyzes the needs, master planning strategies, organization, distribution of companies' personnel requirements, and hiring practices of these services. Discusses training, records, work schedules, staff development, labor problems, physical equipment and facilities, and budget preparation. Prerequisite: FTA* 112

FTA* 218 Extinguishing Systems (FTA 218)   **3 S.H.**
Covers wet- and dry-pipe automatic sprinklers, both commercial and residential, as well as preaction and deluge systems, water spray and foam systems. Also discusses standpipes, carbon dioxide, dry chemical, and halon extinguishing and explosion suppression systems. Review appropriate NFPA Standards. Prerequisite: FTA* 210.

FTA* 219 Fire Investigation (FTA 219)   **3 S.H.**
Determines points of origin and causes of fires, discriminating between fires of accidental and intentional origin. Presents managing operations at the fire scene, collecting and preserving evidence, recording information, and scientific aids to investigation. Prerequisites: CHE* 111 and FTA* 116.

FRENCH
Advanced language instruction beyond the courses listed below is available through Independent Study by arrangement with the instructor.

FRE* 101 Elementary French I (FRE 101)   **3 S.H.**
Presents the essentials of grammar and reading with practice in speaking and writing basic French. Open to students with little or no experience in French.

FRE* 102 Elementary French II (FRE 102)   **3 S.H.**
Improves language skills with further study of grammar, pronunciation, and basic speech patterns. Provides additional practice in reading and writing. Prerequisite: FRE* 101.

FRE* 201 Intermediate French I (FRE 201)   **3 S.H.**
Develops audio-lingual skills. Reviews basic principles of the language, including grammar with an emphasis on reading, writing, and speaking. Prerequisite: FRE* 102.

FRE* 202 Intermediate French II (FRE 202)   **3 S.H.**
Offers a thorough drill of grammar, typical speech patterns, and diction. Stresses conversation and composition, based on class readings, to develop mastery of the language. Prerequisite: FRE* 201.

GEOGRAPHY

GEO* 101 Introduction to Geography (GEO 101)   **3 S.H.**
Presents natural, cultural, and political environments, enabling students to better understand the world. Examines various professional opportunities in the field of geography and various habitats of the physical world, e.g., mountains, deserts, and plains, with particular emphasis on the relationship of place and self.

GRAPHICS

GRA* 151 Graphic Design I (ART 216)   **3 S.H.**
Presents various problems in graphic design and typography. Explains the process of creation from rough layout to tight composition. Stresses creative and aesthetically successful solutions to graphic design problems. (6 studio hours)

GRA* 231 Digital Imaging (ART 275) (Photoshop)   **3 S.H.**
Concentrates on the still photograph as it appears in digital media. Uses the computer to digitize, retouch, and manipulate photographic imagery using Adobe Photoshop. Students will create their own photographs using both traditional film and a digital camera. Instruction will be given for both black and white and color electronic image making. Students must supply their own camera for outside of class picture taking assignments. That camera may be either a 35mm SLR, a film-based point-and-shoot or an electronic digital camera. (6 studio hours)

GRA* 237 Computer Graphics (GRA 232) (Adobe Illustrator)   **3 S.H.**
Expands upon student's graphic design skills and knowledge of procedures. Through lectures, demonstrations, exercises, and real-world projects, the focus will be on Adobe Illustrator. Students will learn how to create drawings and illustrations, develop skills for easy execution of special imaging and typographic effects and apply these skills to solving design problem in print advertising, consumer packaging and desktop publishing environments.

GRA* 241 Digital Page Design I (GRA 223) (InDesign/QuarkXPress)   **3 S.H.**
Students will be introduced to digital page layout and design through the use of QuarkXPress and Adobe InDesign. Through lectures, demonstrations, exercises and real-world projects, students will learn document construction, page layout and typography and will apply these techniques to solving design problems in electronic publishing environments.

GRA* 252 Graphic Design II (ART 217)   **3 S.H.**
Builds on the hand-built skills developed in Graphic Design I, this course introduces the student to the art and design capabilities of the computer. Instruction focuses on paint, image manipulation, and page layout software. Gradually introduces students to software packages through a series of graphic design problems. Prerequisite: GRA* 151.

GRA* 261 Web Design I   **3 S.H.**
Introduces students to web design. Students will use their own creativity to design a website. Adobe Photoshop and Illustrator will be used to create graphics, special effects and animation to the web. HTML as well as Macromedia Dreamweaver will be used.

HEALTH INFORMATION MANAGEMENT TECHNOLOGY

(Program has not been offered in the past two years)

HIM* 101 Medical Terminology (HIM 111)   **3 S.H.**

Introduces the language of medicine. Topics include basic word structure, prefixes, roots, suffixes, and terms pertaining to the body, including singular/plural forms. Also presents terminology related to body systems (cardiovascular/circulatory, digestive, female reproductive, integumentary, musculoskeletal, respiratory, and urogenital). Covers body system units, including anatomic, diagnostic, symptomatic, surgical, and eponymic terms, plus standard abbreviations and acronyms. Emphasizes defining and spelling elements and terms. Pre-requisite: ENG* 043 and/or ENG* 063 or ESL* 161 or 169 with a grade of C or better. If students place into both ENG* 043 and ENG* 073 they must successfully complete both before taking HIM* 101.

HIM* 102 Introduction to Health Information Systems (HIM 122)   **3 S.H.**
(Course has not been offered in the past two years)

Introduces the theory, principles, and practices of health care records administration. Topics include the history of hospitals, medicine, and medical records; filing and numbering systems; content, uses, and analyses of health records; compiling health care statistics and reports; and the duties and responsibilities of health information management technicians. Prerequisite: Acceptance into the Health Information Management Technology program.

HIM* 201 Health Information Management Principles (HIM 211)   **3 S.H.**
(Course has not been offered in the past two years)

Introduces the principles of health information management. Topics include admitting procedures, analysis of medical records, organizing health information systems, statistics, and legal aspects of medical records services. Covers basic health information management areas related to the acquisition and maintenance of health care data. The purpose of this course is to introduce students to these concepts and develop their knowledge in the areas of numbering, filing, indices, registers, record retention, storage and retrieval systems, microfilming, and optical disk storage. Covers admitting and billing procedures and basic computerization in the health information management field, including keyless data entry techniques for bar coding, smart cards, voice recognition, magnetic strip, touch screens, electronic data interchange, and optical character recognition. Prerequisite: HIM* 102.

HIM* 202 Quality Assessment and Improvement (HIM 212)   **3 S.H.**
(Course has not been offered in the past two years)

Describes the quality assurance process for health care staff. Topics include external regulatory agencies, utilization reviews, medical care evaluations, and professional standards review organizations. Emphasizes the medical record, its content, importance, uses, forms, and the procedure of assembly and analysis. Also discusses, in depth, the guidelines from the joint commission on Accreditation of Health Care Organizations, the federal government's Conditions of Participation, and the American Osteopathic Association. Examines the different medical record formats and explains the types used commonly in various health care organizations. Prerequisite: HIM* 102. Corequisites: HIM* 201 and HIM* 214.

HIM* 203 Pathophysiology (HIM 213)   **3 S.H.**
(Course has not been offered in the past two years)

Introduces human disease using a systems approach, emphasizing the abnormal physiological processes that result in the signs and symptoms of various disorders. Also discusses the rationales behind treatments and the complex interrelationships between bodily systems. Prerequisites: BIO* 211, BIO* 212, and HIM* 101. Corequisite: HIM* 214.

HIM* 204 Disease Classifications and Indexing (HIM 225)   **3 S.H.**
(Course has not been offered in the past two years)

Covers the history, format, and conventions of the International Classification of Diseases and its use in health care documentation, statistics, research, education, and financial reimbursement through the prospective payment system. Also presents such secondary records as indices, registers, and follow-up registries. Incorporates terminology related to diagnoses, procedures and surgeries in the inpatient, acute-care setting. Introduces sequencing guidelines and rules for diagnoses, procedures, and surgeries. Considerable time will be spent learning the general coding rules and conventions for ICD-9-CM. The course further focuses on coding V codes, E codes, late effects, signs, symptoms, and other body system diseases and treatments. Uses various teaching methods, such as lectures, demonstrations, scenario presentations, workbook exercises, laboratory exercises, and homework assignments. Prerequisite: HIM* 214. Corequisite: HIM* 226.

HIM* 214 Directed Practice I (HIM 214)   **3 S.H.**
(Course has not been offered in the past two years)

Provides a supervised learning experience in a health care facility. Involves an overview of the health information management department with an emphasis on developing coding and medical correspondence skills. Furthermore, develops such health information processing skills as abstracting, statistics, and tumor registry. Students will meet eight hours a day, two days a week in an assigned clinical facility where they will apply their aforementioned skills. Prerequisite: HIM* 102. Corequisites: HIM* 202 and HIM* 203.

HIM* 226 Directed Practice II (HIM 226)   **3 S.H.**
(Course has not been offered in the past two years)

Provides a supervised learning experience in a health care facility where students have the opportunity to refine technical skills consistent with the needs of various health care delivery systems. Compares and contrasts the needs of different information systems, allowing students to observe management techniques and their effects on project completion. Enhances problem-solving skills for day-to-day situations and problems in an active, dynamic health information department. Students will meet eight hours a day, two days a week in an assigned clinical facility where they will apply the aforementioned skills. Prerequisite: HIM* 214. Corequisite: HIM* 204.

HISTORY

HIS* 101 Western Civilization I (HIS 103)   **3 S.H.**
Presents the basic forces that have shaped Western tradition, from the Neolithic age to the Renaissance and Reformation periods. Emphasizes the economic and political aspects of ancient, medieval, and early modern history.

HIS* 102 Western Civilization II (HIS 104)   **3 S.H.**
Examines the development of the mind from medieval to modern, with particular attention on trade, urban communities, and the commercial and manufacturing centers that altered economic, social, and political thinking.

HIS* 201 U. S. History I (HIS 201)   **3 S.H.**
Presents a special treatment of the social, economic, political, and cultural development of the American people, beginning with the Age of Discovery and Colonial settlement and continuing through the Civil War. Topics include Puritanism, Hamiltonianism, and Sectionalism.

HIS* 202 U. S. History II (HIS 202)   **3 S.H.**
Provides a topical, rather than a chronological, approach to the Reconstruction in the South, from 1865 to the present. Applies the same approach in the same time span to other topics, such as labor, agriculture, business, foreign affairs, and progressivism. Topics are based on a contemporary problem, taking into account its historical perspective.

HIS* 216 African-American History I (HIS 101)   **3 S.H.**
Demonstrates the significant role African-Americans have played in history. Starting in Africa, stresses such topics as slave trade and slavery. Continuing through the Colonial and antebellum periods to the Reconstruction and segregation eras, places the African-American in the proper perspective within the fully dimensional picture of America.

HIS* 217 African-American History II (HIS 102)   **3 S.H.**
Studies the African-American experiences from the Post-Reconstruction era through modern times. Illustrates some of the many success stories of African-Americans and identifies the obstacles that were placed in their way. Covers the Harlem Renaissance, Brown vs the Board of Education, the Civil Rights Movement, the Black Power Movement, and the Great Society.

HIS* 233 20th Century Russia (HIS 205)   **3 S.H.**
(Course has not been offered in the past two years)

Examines the intellectual, political, and socioeconomic changes in twentieth century Russia. Investigates post-revolutionary problems, both political and economic, during the consolidation of power by the Soviet dictatorship. Also addresses Glasnost, Perestroika, and the collapse of the Soviet Union.

HIS* 253 History of Human Rights   **3 S.H.**
Examines the origin and development of the concept of human rights in the modern world. It will examine three major areas of human rights: political, social and economic, and cultural rights through the study of theoretical material and case studies. The main focus will be on Latin American and the United States.

HSP* 100 Introduction to the Hospitality Industry (HSP 101)   3 S.H.
Examines the scope, components, and development of the hospitality and tourism industries. Overview of specialized fields and careers relating to the management of food service, lodging, and tourism operations. Covers the relationship between components of hospitality and meeting planning. Offered in the fall semester only.

HSP* 101 Principles of Food Preparation (HSM 109)   3 S.H.
Introduces basic concepts and methods of cooking in all facets of food service operation. Lectures, demonstrations, and hands-on experience in food production will be used. In the food lab, students will learn proper methods of broiling, grilling, sauteing, roasting, and baking, using examples of meat, fish, poultry, and vegetables. Students will learn meat and fish fabrication, proper knife skills, tool and equipment use, weights, measures, and recipe conversion. Menu planning, purchasing, and the serving of food will be covered. Prerequisite: MAT* 075 or sufficient score on the mathematics placement test.

HSP* 103 Principles of Baking I (HSM 115)   3 S.H.
Introduces baking and pastry arts with intensive, hands-on laboratory training in a quantity food environment. Concentrates on the production and quality control of baked goods that are used in hotels, restaurants, resorts, and institutions. Laboratory classes emphasize basic ingredients and production techniques for breads, rolls, folded doughs, batters, basic cakes, pies, and creams. One hour of lecture / three hours of lab.

HSP* 108 Sanitation and Safety (HSM 102)   3 S.H.
Presents sanitation, safety, and maintenance challenges encountered in the food service industry. Investigates causes and prevention of food-borne illnesses and the importance of sanitation and safety in food service establishments. A nationally recognized certificate in food service sanitation will be awarded by the National Restaurant Association to students who pass the certification exam.

HSP* 110 Quantity Food Production (HSM 112)   4 S.H.
Emphasizes research of recipes, preparation of food, purchase orders, requisitions, and income and expense summaries for each menu. Students prepare full-course menus in quantity. Students will serve in various positions in the dining room and kitchen areas. One hour of lecture / five hours of lab. Prerequisite: HSP* 101.

HSP* 117 Beverage Management (HSM 201)   3 S.H.
Introduces the identification, use, and service of wines and other alcoholic beverages with an in-depth analysis of the various elements of beverage operations, including purchasing, control, legalities, merchandising, and bar management. Offered in the spring semester only.

HSP* 131 Principles of Dining Service   1 S.H.
Provides basic knowledge of dining service, table service, and the fundamental skills necessary to achieve service goals in the hospitality industry. Offered in the fall semester only.

HSP* 201 International Foods (HSM 217)   4 S.H.
Student teams plan, prepare, and service full-course international menus. Emphasizes organization, showmanship, and supervision. Requires oral and written reports on food from different countries. One hour of lecture / five hours of lab. Prerequisites: HSP* 101 and HSP* 110. Offered in the spring semester only.

HSP* 202 Catering and Event Management (HSM 210)   3 S.H.
Focuses on the production of buffets, banquets, and receptions. Promotes artistic production and participation in community service projects. Students prepare summaries and evaluations at the conclusion of each session. Covers the logistics of banquet and meeting room set-up and convention servicing. Offered in the spring semester only.

HSP* 211 Food and Beverage Cost Control   3 S.H.
Presents cost control methods, cost/volume/profit relationship, and purchasing as they relate to the food and beverage industries. Food and beverage cost determination, inventory, turnover, menu, and portion costing and forecasting will be discussed. Offered in the fall semester only. Prerequisite: MAT* 075.

HSP* 212 Equipment Design and Layout (HSM 212)   3 S.H.
(Course has not been offered in the past two years)

Presents the concepts of equipment and layout and their interrelationship in a well-organized food service facility. Considers equipment selection based on menu, volume, and budget requirements. Focuses on equipment design and layout methodology. Prerequisites: HSP* 101 and HSP* 108.

HSP* 215 Principles of Baking II (HSM 215)   **4 S.H.**
Focuses on the preparation of advanced pastries and classical desserts, including the preparation of petit fours, cake decoration and calligraphy, sugar and chocolate work, ice cream, and showpieces. One hour of lecture / three hours of lab. Prerequisite: HSP* 103.

HSP* 231 Hospitality Law (HSM 220)   **3 S.H.**
Introduces the basics of hotel, motel, restaurant, and travel law. Covers the fundamental laws, rules, regulations, and contracts applicable to the hospitality and meetings industries. The hotel-guest relationship laws regarding food and beverage service, negotiation, mediation, and contract relationships between management and vendors will be discussed. Offered in the fall semester only.

HSP* 237 Hospitality Marketing (HSM 231)   **3 S.H.**
Focuses on marketing and sales as they apply to the hospitality industries, especially methods of marketing a hotel, restaurant, and destination. Topics include marketing basics, the marketing plan, sales promotion, and special challenges in this industry. The relationship of sales and marketing to the meetings and conventions industry will be discussed. Offered in the fall semester only.

HSP* 241 Principles of Tourism and Travel (HSM 233)   **3 S.H.**
(Course has not been offered in the past two years)

Introduces the tourism field, highlighting goals of the tourism profession and providing a guideline for achieving individual and collective success. Covers market analysis and conceptual planning of site development, transportation, accommodations, and support industries. Presents a comprehensive view of the field, dramatically bringing to the forefront the immense propositions of world tourism, examining its past and present, and providing a direction for the future.

HSP* 244 Meetings, Conventions, and Special Events Management (HSM 225)   **3 S.H.**
Introduces methods of creating successful meetings, conventions, and special events. Topics include setting objectives, program design, site selection, budgeting, negotiations, room setups, audio visual, travel arrangements, and contracting for services. Offered in the spring semester only.

HSP* 246 Hotel Accounting and Front Office Management (HSM 242)   **3 S.H.**
Emphasizes accounting procedures and functions of the front office, including internal control procedures, guest services, housekeeping, and reservations. Places attention on the needs of management and the application of accounting concepts and techniques to managerial decision making. Explores the interaction of the front office and other areas of the hotel in relationship to customer service. Offered in the spring semester only.

HSP* 295 Hospitality Management, Work Experience/Internship (HSM 251)   **3 S.H.**
Provides an opportunity to gain experience in a hotel, restaurant, food service, or travel related business. Phase one takes place during the spring semester and requires the student to complete 120 internship hours at a site designated by the instructor. This experience must be new to the student. Once the first phase is completed, phase two requires an additional 280 documented paid work experience hours at a site approved by the instructor. Phase two is completed between May 15 and August 10. The student is responsible for seeking the second phase paid employment in the hospitality industry. Prerequisite: Program director's permission, a minimum GPA of 2.50, completion of 18 earned HSP* credit hours. Offered in the spring semester only.

HUMAN DEVELOPMENT

HDV 100 Orientation to College   **1 S.H.**
Orients a new student to Gateway Community College. Addresses personal development topics (such as stress management and career planning) and study skills (including note taking and preparing for tests). Provides students with the skills and strategies to solve problems they are likely to encounter when they enter college.

HDV 101 Survival at College   **1 S.H.**
Introduces students to strategies and techniques for setting and accomplishing academic, personal or professional goals. Focuses on how to navigate expectations and projections that interfere with achieving objectives even when faced with obstacles. Students learn how their thoughts, feelings and behavior when directed toward creating positive experiences, can support their success and alter their lives' course.

HDV 103 Career Planning   **1 S.H.**
Explores career opportunities within a small group. Students will learn about the process of career decision making, including an examination of values and interests and the use of information about various occupations.

HDV 104 Strategies for Academic Success   **2 S.H.***
Offers academic support to students having difficulty successfully completing college level work. Enhances students' capabilities through group work and individualized attention to identified academic deficiencies. Students will be strongly supported by Student Services personnel. *Credit does not count toward meeting degree requirements.

HDV 105 Learning Strategies   **2 S.H.***
Improves the study skills of beginning students to help them successfully complete college level work. Stresses learning strategies, including goal setting, time management, productive study habits, note-taking and test-taking techniques. Emphasizes memory and concentration enhancements as well as promoting active listening behaviors. Placement: Results of ACCUPLACER. *Credit does not count toward meeting degree requirements.

HUMAN SERVICES

HSE* 101 Introduction to Human Services (HSR 115)   **3 S.H.**
Introduces the history, philosophy, ethics, and values of the human services field. Compares the variety of structures, goals, and methods of service delivery, focusing on the human service network of New Haven.

HSE* 143 Mediation   **3 S.H.**
Introduces the concepts and skills of mediation, a type of third-party conflict intervention. This course will provide students with theory, research and practice to effectively use mediation skills in a wide variety of contexts. Prerequisites: COM* 171, ENG* 101 (or higher), HUM* 125.

HSE* 151 Introduction to Therapeutic Recreation (HSR 120)   **3 S.H.**
Presents the history, philosophy, and concepts of Therapeutic Recreation services in community and institutional settings. Students will learn how special population groups use and benefit from the skills of therapeutic recreation specialists.

HSE* 152 Programming in Therapeutic Recreation (HSR 225)   **3 S.H.**
Teaches the purpose of recreational services, how to use the methods and materials. Describes the rehabilitation process and how to apply the correct programs to specific groups.

HSE* 153 Methods and Materials for Therapeutic Recreation (HSR 226)   **3 S.H.**
Explains in a concentrated form the methods and materials used in various recreational settings. Assesses the physical, mental, emotional, and social abilities of clients who need therapeutic recreation services. Presents group activities that incorporate, among other methods, crafts, drama, dance, and music to create well-rounded therapeutic recreation programs. Prerequisite: HSE* 152.

HSE* 228 Youth Work Seminar (HSR 240)   **3 S.H.**
Students enrolled in the youth worker certificate program and who are also concurrently enrolled in either HSE* 281 or HSE* 282 will meet for this small group seminar. At these seminars, agencies will present ways in which they serve youth by implementing the youth worker philosophy in their provision of services. Students will learn to apply theoretical concepts to their practice specialty through direct experience and supportive seminar learning experiences. Corequisite: HSE* 281 or HSE* 282.

HSE* 247 Supervisors' Seminar (HSR 235)   **3 S.H.**
Focuses on concepts, principles, and methods of supervising new professionals and/or paraprofessionals. Focuses on issues confronting the supervisor in traditional settings. Intended for administrators, managers, teachers, and professionals who work in human service agencies and organizations.

HSE* 271 Field Work Seminar I (HSR 241)   **3 S.H.**
Presents how to integrate and process knowledge and theory learned in foundation courses with experiences gained at the field site. The seminar acts as a forum for sharing field experiences and as a peer support group. Focuses on developing the skills necessary for human services practice, i.e., observation, human relations, interviewing, self-awareness, and leadership. Corequisite: HSE* 281.

HSE* 281 Human Services Field Work I (HSR 243)   **3 S.H.**
Provides prospective human services workers with an opportunity to learn experientially at a human services agency in the community. Focuses on how an agency functions through direct experience in a part of that agency. Requires a minimum of eight hours a week at the placement agency. Corequisite: HSE* 271.

HUM* 125 Introduction to Peace and Conflict Studies   **3 S.H.**
Presents an interdisciplinary study of the concepts of peace and conflict as they relate to economic, sociological, psychological, historical, political, technological, cultural, ideological, geographical, and environmental factors since the end of the Cold War.

HUM* 130 Philosphy and Practice of Yoga   **3 S.H.**
Investigates the philosphy of yoga, its origins, and its place in our contemporary lives. Teaches the different aspects of yoga and areas of study that encompass the fundamental principles of the discipline.   Teaches basic poses as well as meditation and breathing techniques.

ITALIAN
Advanced language instruction beyond the courses listed below is available through Independent Study by arrangement with the instructor.

ITA* 101 Elementary Italian I (ITA 101)   **3 S.H.**
Presents the essentials of grammar and reading with practice in speaking and writing simple Italian. Stresses pronunciation. Open to students with little or no experience in Italian.

ITA* 102 Elementary Italian II (ITA 102)   **3 S.H.**
Emphasizes aural comprehension, pronunciation, and basic conversation. Continues practice in speaking and writing. Stresses the basic structure of Italian grammar. Prerequisite: ITA* 101.

ITA* 201 Intermediate Italian I (ITA 201)   **3 S.H.**
Reviews and deepens knowledge of Italian grammar with more emphasis on reading and vocabulary building. Intensifies practice in speaking and some reading of contemporary prose. Prerequisite: ITA* 102.

ITA* 202 Intermediate Italian II (ITA 202)   **3 S.H.**
Stresses conversational patterns and practices. Presents Italian literature and culture. Provides the skill training required to read and translate Italian. Prerequisite: ITA* 201.

MANUFACTURING ENGINEERING TECHNOLOGY

MFG* 102 Manufacturing Processes (MFG 110)   **3 S.H.**
Provides theoretical concepts of manufacturing and develops the knowledge and skills required in the manufacturing process. The laboratory portion introduces common metal cutting tools, lathe operations, and associated precision measuring tools and instruments. Labs will involve set-up and preparation of milling machines, lathes, grinders, and drill presses. Two hours of lecture / three hours of laboratory. Co-requisite: ARC* 133.

MFG* 108 Computer Aided Manufacturing (MFG 112)   **4 S.H.**
Focuses on the process of manual and automated preparation of computerized manufacturing system programs. The laboratory portion provides experience in the manual and automated preparation of computerized manufacturing system programs. Three hours of lecture / two hours of laboratory. All classes conducted in computer laboratories. Prerequisite: MFG* 102.

MFG* 116 Quality Assurance Organization and Management   **4 S.H.**
Develops the concepts of a Total Quality System (TQS), including policies, objectives, and organization. Reviews such topics as cost of quality, planning, improvement techniques, reliability, supplier relations, and evaluations. Addresses inspection, measurement, and process control techniques. Covers customer and consumer relations.

MFG* 204 Advanced Computer Aided Manufacturing (MFG 212)   **4 S.H.**
Builds on the skills learned in CAM I with sharper focus on the integration of CAD and CAM for fast prototyping and design for manufacturing. The laboratory portion introduces practical applications for automated CAM systems. Three hours of lecture / two hours of laboratory. All classes are conducted in computer laboratories. Prerequisite: MFG* 108.

MFG* 208 Process Engineering (MFG 220)   **4 S.H.**
Introduces the principles and techniques used to design the most efficient method of product manufacturing, establish the best sequence of operations, select the proper machines to perform the operations, evaluate the need for special tooling, and provide conceptual sketches of special tools. The laboratory portion consists of workshop problems that prepare the student for an entry-level position in manufacturing process design. Exercises cover such conventional machine tools as turn, drill, mill, broach, CNC, grind, and miscellaneous processes. Three hours of lecture / two hours of laboratory. Prerequisite: MFG* 102.

MFG* 210 Materials of Engineering (MFG 210)   **4 S.H.**
Studies the structure and properties of engineering materials. Discussed materials selection, processing and heat treatment. Addresses the changes in structure and properties during forming, machining and heat treating operations. The laboratory portion uses selected experiments to demonstrate the effects of processing including heat treatment on the properties of engineering materials. Standard materials tests are also performed. Three hours of lecture/two hours of laboratory. Prerequisite: MFG* 102.

MFG* 216 Tool Designing (MFG 224)   **4 S.H.**
Covers the theory of metal cutting tools design. Presents the principles, practices, tools, and commercial standards of single point, jig, fixture, and die design through lectures, visual aids, and individual projects and design work. The laboratory portion provides practice in the design of metal cutting tools. Two hours of lecture / four hours of laboratory. Prerequisites: CAD* 108 and MFG* 102.

MFG* 228 Computer Integrated Manufacturing I (MFG 226)   **4 S.H.**
Covers computer generated CNC programming, robot programming, analog programmable logic control programming, and interfacing of robots, controllers and machine tools. Discussed part families, CAD/CAM and Flexible Manufacturing Systems. The laboratory portion provides practice in writing computer generated CNC programs, robotic programming and interfacing and analog programmable logic controller programming. A flexible manufacturing system is programmed. Three hours of lecture/two hours of lab. Prerequisites: CAD* 108, MFG* 108.

MFG* 230 Statistical Process Control (MFG 228)   **3 S.H.**
Presents a practical management aid adapted from the science of statistics. Presents topics ranging from basic statistical concepts to techniques for cost and quality control, emphasizing control by charting and acceptance sampling. Uses the computer as an aid in calculation and control chart preparation. Prerequisite: MFG* 102.

MFG* 239 Geometric Dimensioning and Tolerancing (MFG 111)   **3 S.H.**
Focuses on the industrially accepted ANSI Specification Y14.5-1973 and ANSI Y14.5M-1982. The ANSI Y14.5 specification creates a unified language that specifies engineering requirements related to the actual function of and relationship between parts. Includes the application of form, profile, orientation, runout, and location types of geometric characteristics, including the application of the feature control frame and tolerance and datum modifiers.

MFG* 296 Manufacturing Internship (MFG 246)   **3 S.H.**
Provides practical experience in the manufacturing field. The assignment can involve one or more of the subjects relevant to manufacturing engineering technology, including drafting, manufacturing processing, CAD, CAM, quality control, and tool design. Prerequisites: Good academic standing and the consent of the academic advisor or the Manufacturing Program Coordinator.

MATHEMATICS

Placement: Determined by ACCUPLACER or course prerequisites as indicated.

MAT* 075 Prealgebra: Number Sense, Geometry (MAT 100)   **3 S.H.***
Presents the basic concepts and skills of arithmetic and prealgebra. Topics include whole numbers, signed numbers, decimals, fractions, ratios, proportions, percent, estimation, geometry, variables, expressions, and equations. *Credit does not count toward degree requirements or graduation. An online computer homework supplement is available in all sections. Exit criteria: A grade of C or better allows enrollment in MAT* 095; a grade of C-, D+, D, or D- requires enrollment in MAT* 097 or to repeat MAT* 075.

MAT* 092 Statway I   **4 S.H.***
This is the first course in the two semester Statway course sequence. This course sequence is recommended for students enrolled in degree programs that require no mathematics beyond freshman-level statistics. Both courses in the sequence must be taken to receive credit for college-level statistics. Students will use mathematical and statistical tools to explore real life data in a participatory learning environment. Statway I topics include an introduction to data analysis, statistical studies, sampling, experimental design, descriptive statistics techniques, scatterplots, correlation and regression, modeling data with functions, linear and exponential functions, and probability. This course requires the use of statistic technology. *Credit does not count toward degree requirements or graduation. Pre-requisite: MAT* 075 with a B or better, appropriate score on placement test or permission of CAS department chairperson. Co-requisite: ENG* 073 or appropriate score on placement test or permission of CAS department chairperson.

MAT* 095 Elementary Algebra Foundations (MAT 101)   **3 S.H.***
This is an introductory course in Algebra. Topics include properties of the real number system, linear equations and inequalities in one variable, graphing linear equations and inequalities in two variables, formulating equations of lines in two variables, an inroduction to functions, solving systems of linear equations by graphing, rules of integral exponents and operations on polynomials. * Credit does not count toward degree requirements or graudation. A graphing calculator is required. A calculator in the TI-83 or TI-84 family is strongly recommended. Prerequisites: A grade of C or better in MAT* 075; or a sufficient score on the mathematics placement test.

MAT* 097 Elementary Algebra Foundations with Prealgebra   **5 S.H.***
Combines MAT* 075 and MAT* 095 topics to present an introductory course in Algebra including a concentrated arithmetic review. Topics include whole numbers, signed numbers, decimals, fractions, ratios, proportions, percent, estimation, geometry, linear equations and inequalities in one variable, graphing linear equations and inequalities in two variables, formulating equations of lines in two variables, an introduction to functions, solving systems of linear equations by graphing, rules of integral exponents and operations on polynomials. * Credit does not count toward degree requirements or graduation. A graphing calculator is required. A calculator in the TI-83 or TI-84 family is strongly recommended. Prerequisites: A sufficient score on the mathematics placement test; or a grade of C-, D+, D, or D- in MAT* 075.

MAT* 109 Quantitative Literacy (MAT 109)   **3 S.H.**
Introduces the language of mathematics. Topics include consumer mathematics, percent, personal loans and simple interest, compound interest, installment buying, buying a house with a mortgage, annuities, and sinking funds. A brief study of the history of mathematics, including early numeration systems. A basic introduction to game theory and voting and apportionment. This course may be used to satisfy the mathematics requirement for graduation. Prerequisite: MAT* 095, MAT 097 or sufficient score on the mathematics placement test.

MAT* 115 Mathematics for Science and Technology (MAT 112)   **3 S.H.**
Presents basic mathematical concepts needed in the science and technology fields. Includes scientific notation, English and metric systems, solutions to first- and second-degree equations, systems of equations, logarithms, elementary geometry, statistics, graphing, and trigonometry. Introduces the scientific calculator. Prerequisites: A grade of C or better in MAT* 095, MAT 097 or sufficient score on the mathematics placement test.

MAT* 117 Introduction to Finite Mathematics (MAT 117)   **3 S.H.**
Presents various mathematical topics, including a review of basic algebraic concepts, mathematics of finance, systems of linear equations and matrices, linear inequalities and linear programming, probability, and game theory. Prerequisites: A grade of C or better in MAT* 095, MAT 097 or sufficient score on the mathematics placement test.

MAT* 122 Statway II   **3 S.H.**
Second course in the two semester Statway sequence. This sequence is recommended for students enrolled in degree programs that require no mathematics beyond freshman-level statistics. Both courses in the sequence (Statway I and Statway II) must be taken to receive credit for college-level statistics. Students will use mathematical and statistical tools to explore real-life data in a participatory learning environment. Statway II topics include modeling data with functions, quadratic functions, discrete and continuous probability distribution, Central Limit Theorem, sampling distributions, confidence intervals, hypothesis testing. Prerequisites: MAT* 092.

MAT* 123 Elementary Statistics (MAT 110)   **3 S.H.**
Considers fundamental concepts of probability and statistics including mean, median, mode for grouped and non-grouped data, permutations, combinations, applications of distributions, hypothesis testing, and confidence intervals. Prerequisites: A grade of C or better in MAT* 095, MAT 097 or sufficient score on the mathematics placement test.

MAT* 137 Intermediate Algebra (MAT 119) **3 S.H.**
This course is a rigorous study of the real number system, polynomials, rational exponents, radicals, sets, relations, first- and second-degree functions, inverse and composite functions, first- and second-degree equations and inequalities, systems of equations, and complex numbers. A graphing calculator is required. TI-83 or TI 84 family is strongly recommended. Prerequisites: A grade of C or better in MAT* 095, MAT 097 or sufficient score on the mathematics placement test.

MAT* 142 Mathematics for the Natural Sciences (MAT 142) **3 S.H.**
Presents the numerical and algebraic manipulation of data, curve sketching, and curve fitting. Solutions to problems with a calculator, using examples from the natural sciences. This course may be used to satisfy the mathematics requirement for graduation. Prerequisite: A grade of C or better in MAT* 137 or sufficient score on the mathematics placement test.

MAT* 143 Mathematics for Elementary Education: Algebra/Number Systems I (MAT 138) **3 S.H.**
Presents mathematical reasoning for problem solving sets, whole numbers, numeration systems, number theory, and integers. Required of all students in and working toward certification in elementary education. This course may be used to satisfy the mathematics requirement for graduation. Prerequisite: A grade of C or better in MAT* 137 or sufficient score on the mathematics placement test.

MAT* 144 Mathematics for Elementary Education: Geometry and Data (MAT 139) **3 S.H.**
Presents geometry, measurement, rational numbers, irrational numbers, ratio, proportion, percent, problem solving, mathematical reasoning and connections, probability, and statistics. This course may be used to satisfy the mathematics requirement for graduation. Prerequisite: A grade of C or better in MAT* 143.

MAT* 146 Mathematics for the Liberal Arts **3 S.H.**
Intended for the student whose major field of study requires no specific mathematical preparation. This course examines logical structures, patterns and method of abstractions as they occur in a variety of basic mathematical topics such as set theory and number theory. Some historical aspects of mathematics are considered. Prerequisite: A grade of C or better in MAT* 137 or sufficient score on the mathematics placement test.

MAT* 151 Mathematics of Finance (MAT 121) **3 S.H.**
Presents the basic mathematical operations of finance. Includes allocation of depreciation and overhead costs, financial statements and ratios, inventory evaluation, trade and case discounts, simple interest and bank discount, multiple payment plans and various compound interest calculations. Introduces and expands upon certain topics in the accounting sequence. Prerequisite: MAT* 115 or MAT* 137.

MAT* 167 Principles of Statistics (MAT 123) **3 S.H.**
Introduces the concepts of collecting and compiling data. Reviews data presentation in tabular and graphic forms, bivariate data and its presentation, probability and probability structures, inferential statistics, analysis of variance, and hypothesis testing. Uses statistical computing software. Prerequisite: MAT* 137.

MAT* 172 College Algebra (MAT 125) **3 S.H.**
Briefly reviews the algebraic operations of real numbers. Offers an intense study of logarithms, exponential and logarithmic functions, systems of equations, determinants and matrices, and complex numbers. Prerequisite: A grade of C or better in MAT* 137.

MAT* 175 College Algebra and Trigonometry (MAT 127) **3 S.H.**
Covers the basic manipulation of algebraic expressions, equations, and inequalities. Introduces factoring, trigonometry, exponents, radicals, and graphing. Uses the graphing calculator. Prerequisite: A grade of C or better in MAT* 137 or sufficient score on the mathematics placement test and high school trigonometry.

MAT* 185 Trigonometric Functions (MAT 130) **3 S.H.**
Studies trigonometric functions, identities, and conditional trigonometric equations. Includes multiple angle functions, radian measure, and selected applications of trigonometry. Prerequisite: MAT* 172.

MAT* 186 Precalculus **4 S.H.**
Covers symmetry and transformation, polynomial and rational functions, exponential and logarithmic functions and equations, trigonometric functions, trigonometric identities, inverse functions and equations. Addresses advanced trigonometry and applications. Includes such topics as partial fractions, conic section, and non-linear systems of equations and ineqalities in preparation for Calculus I. Uses the graphing calculator. rerequisite: A grade of C or better in MAT* 172 or MAT* 175 or permission of instructor.

MAT* 232 Applied Calculus
3 S.H.

Emphasizes the techniques and applications for social science, economics and business students. Covers functions and models, the derivative and its applications, exponential and logarithmic functions and integration. Prerequisite: A grade of C or better in MAT* 172 or MAT* 175 or sufficient score on the mathematics placement test.

MAT* 254 Calculus I (MAT 245)
4 S.H.

Applies limits, continuity, differentiation, antidifferentiation, and definite integrals to the physical and engineering sciences. Includes use of graphing calculators and/or computer laboratory activities. Prerequisites: MAT* 185 or MAT* 187.

MAT* 256 Calculus II (MAT 246)
4 S.H.

Applies transcendental functions, formal integration, polar coordinates, infinite sequences and series, vector algebra, and geometry to the physical and engineering sciences. Includes use of graphing calculator and/or computer laboratory activities. Prerequisite: MAT* 254.

MAT* 268 Calculus III: Multivariable (MAT 255)
4 S.H.

Covers two- and three-dimensional vector algebra, calculus of functions of several variables, vector differential calculus, and line and surface integrals. Prerequisite: MAT* 256.

MAT* 272 Linear Algebra (MAT 260)
3 S.H.

A comprehensive introduction to linear algebra and its applications, including matrix algebra and reduction techniques, vector spaces, linear transformations, and Eigenvalue theory. Graphing calculators and computer software will be used. Prerequisite: MAT* 268 or departmental permission.

MAT* 285 Differential Equations (MAT 256)
3 S.H.

Introduces ordinary differential equations and their applications, linear differential equations, systems of first order linear equations, and numerical methods. Prerequisite: MAT* 268.

MECHANICAL ENGINEERING TECHNOLOGY

MEC* 104 Mechanics - Statics (MEC 114)
3 S.H.

Analyzes the forces acting on various types of two- and three-dimensional structures in static equilibrium. Studies the composition and resolution of forces acting on beams, trusses, frames, and machines. Also covers centroids, distributed forces, moments of inertia, and friction. The laboratory portion provides problem-solving applications of the theory learned in the classroom, emphasizing engineering analysis and the preparation of written reports. Three hours of lecture. Prerequisite: MAT* 175, PHY* 122 or sufficient score on the mathematics placement test.

MEC* 234 Electromechanical Controls (MEC 234)
4 S.H.

Introduces the student to the fundamentals of electric circuits and electrical machinery emphasizing DC/AC single and polyphase motors and generators. Presents electrical methods of manual and automatic control of mechanical systems. The laboratory portion covers motors, control systems, digital logic, and applications. Emphasizes the organization, report, and interpretation of test data in a written report for each experiment. Three hours of lecture / two hours of laboratory. Prerequisite: MAT* 095 or sufficient score on the mathematics placement test.

MEC* 240 Fundamentals of Thermodynamics (MEC 238)
4 S.H.

Presents the thermodynamic principles of heat, work, non-flow and steady flow processes, and thermodynamic cycles. Stresses the fundamental principle of energy conversion and the use of thermodynamic data tables and charts. Three hours of lecture / two hours of laboratory. Prerequisite: MEC* 104. Corequisite: MAT* 187.

MEC* 250 Strength of Materials (MEC 220)
3 S.H.

Covers the principles involved in the analysis of stresses in machine and structural elements under various types of loads. Analyzes these stresses in thin-walled cylinders and spheres, riveted and welded joints, beams, columns, cast sections, couplings, and shafts. The laboratory portion investigates material strength and the intelligent use of existing references. In the lab, students work in small groups to conduct their own measurements of the mechanical properties of common materials. Uses microcomputers to analyze experimental data and prepare final reports. Two hours of lecture / three hours of laboratory. Prerequisite: MEC* 104. Corequisite: MAT* 175.

MEC* 265 Materials Science (MEC 222)
4 S.H.

Introduces the internal structure of metallic, polymeric, and ceramic solids and their physical, mechanical, electrical, and chemical properties in engineering applications. The laboratory portion investigates the reactions that take place in materials subjected to a variety of tests. Introduces students to ASTM standards and procedures. Three hours of lecture / two hours of laboratory. Corequisite: PHY* 121.

MEC* 271 Fluid Mechanics (MEC 236)   **4 S.H.**

Introduces fluid mechanics, basic fluid characteristics, hydrostatics, pressure, center of pressure, and pressure measuring devices. Demonstrates the application of the general energy equation to fluid in motion. Also demonstrates the modifications necessary to analyze the effect of viscosity and friction of fluid flow, pressure heads, and pumping calculation. Three hours of lecture / two hours of laboratory. Prerequisite: MEC* 104. Corequisite: MAT* 187.

MEC* 283 Design of Machines (MEC 230)   **4 S.H.**

Presents the concept of Mechanical Design, from concept to specifications. Covers the procedures, data, and techniques necessary to design such mechanical components as gears, springs, bearings, belt and chain drives, clutches, brakes, fasteners, shafts, and screws. Emphasizes the use of computers in the design process. The laboratory portion combines all previous study dealing with machine elements. Uses computer-aided design solutions and requires a design project. This project includes an analysis of individual components, assembly, and detail drawings. Three hours of lecture / three hours of laboratory. Prerequisites: MEC* 250, MEC* 265, and CAD* 108.

MEC* 296 Mechanical Engineering Internship   **2 S.H.**

Provides Mechanical Engineering Technology students with a semester of external related career experiences designed to enhance the student's preparedness for an intended career with business, industry or government agency. A comprehensive written report on the Internship practice is required. To be eligible for the internship, a student must be of good academic standing and have program advisor approval.

MUSIC

MUS* 101 Music History and Appreciation I (MUS 101)   **3 S.H.**

Surveys composer biographies and musical styles from the Medieval, Renaissance, Baroque, Classical, and Romantic eras. Emphasizes historical fact, listening skills, and music vocabulary for enjoyment. Requires attendance at one concert.

MUS* 115 Music Theory I (MUS 105)   **3 S.H.**

Develops skills in music reading, ear training, and melodic and harmonic analysis. Analyzes composition through counting, reading, and pitch notation in the classroom and laboratory.

MUS* 116 Music Theory II (MUS 106)   **3 S.H.**

Builds on skills learned in Music 115. Includes analysis of form, structure, and compositional techniques. Prerequisite: MUS* 115 or instructor's permission.

MUS* 126 20th Century/Modern Music (MUS 202)   **3 S.H.**

Surveys twentieth century composers, their musical styles, and influences from the Post-Romantics. Includes such composers as Schoenberg, Stravinsky, Bartok, and Copland. Discusses some contemporary compositions in jazz, rock, country, and new musical styles. Suggested prerequisite: MUS* 101.

MUS* 141 Guitar I (MUS 131)   **3 S.H.**

A guitar course for students with no previous guitar experience. Students must provide their own instruments and supplies.

MUS* 142 Guitar II (MUS 132)   **3 S.H.**

A second-level guitar course for students with minimal experience playing guitar and reading G clef. Students must provide their own instruments and supplies.

MUS* 143 Guitar III (MUS 133)   **3 S.H.**

A third-level guitar course for students with experience playing guitar and reading G clef. Students must provide their own instruments and supplies.

MUS* 144 Guitar IV (MUS 134)   **3 S.H.**

A fourth-level guitar course for students with knowledge of advanced guitar technique and bass technique. Students must provide their own instruments and supplies.

MUS* 150 Class Piano I (MUS 141)   **3 S.H.**

An introductory piano course, presenting simple note values in duple and triple meter, in both F and G clefs. Focuses on the organization of the keyboard. Develops skills in performing major scales and arpeggios, simple five-finger position compositions, and exercises for technique.

MUS* 151 Class Piano II (MUS 142) **3 S.H.**
Continues the study of simple compositions in duple, triple, and quadruple meters and in reading the F and G clefs. Includes minor scales and arpeggios, two octave major scales and arpeggios, simple compositions, and studies in technique.

MUS* 171 Chorus I (MUS 111) **3 S.H.**
MUS* 172 Chorus II (MUS 112) (Course has not been offered in the past two years) **3 S.H.**
MUS* 272 Chorus III (MUS 113) **3 S.H.**
MUS* 273 Chorus IV (MUS 114) (Course has not been offered in the past two years) **3 S.H.**

Presents choral material, both sacred and secular, accompanied, and a cappella. Surveys choral works from Renaissance madrigals to contemporary American music. May be taken four semesters for credit and is open to all students.

MUS* 218 Electronic Music Composition/Audio Technology I (MUS 210) **3 S.H.**
Develops a working understanding of computer music software. Includes such compositional techniques and strategies as meter applications in duple, triple, and quadruple meters; melodic structure and organization; harmonic movement in tonality; and an introduction to the social and artistic purposes of musical composition.

MUS* 219 Electronic Music Composition/Audio Technology II (MUS 211) **3 S.H.**
Applies music notation software using electronic piano input. Explores standard tonal composing techniques for both popular and artistic music alongside prominent atonal twentieth century techniques. Introduces the use of text (lyrics) and notation for orchestra. Examines current procedures for copyrighting and publishing musical compositions.

MUS* 243 Orchestra: Baroque Era **3 S.H.**
Focuses on music of the Baroque Period (approx. c. 1600-1750). This period closely followed the Renaissance, flourished under the leadership of J.S. Bach whose works will be studied in depth. Most music was written for the church, opera, or the Court with the emergence of a homophonic style. Through use of recordings, videos, and live concerts, students will become familiar with Baroque Period music such as Handel's Messiah, Bach's Brandenberg Concerto and Vivaldi's Four Seasons. Instrumentalists will engage in actual performance of music of the Baroque period. Non-instrumentalists will participate through observation, laboratory, and field experiences. Non-instrumentalists may choose the course with the permission of the instructor. You do not need to play an instrument to take this course.

MUS* 244 Orchestra: Classical Era **3 S.H.**
Focuses on music of the Classical Period which is often called the Viennese period. In this period the symphony and string quartet flourished through major contributions by Haydn, Mozart, and Beethoven. Through the use of recordings and videos, students will become familiar with such works as Mozart's Don Giovanni, Haydn's London Symphonies, Beethoven's Symphony No. 3 "Eroica" and many others. Instrumentalists will engage in actual performance of music of the Classical Period. Non-instrumentalists will participate through observation, laboratory, and field experiences. Non-instrumentalists may choose the course with the permission of the instructor. You do not need to play an instrument to take this course.

MUS* 245 Orchestra: Romantic Era **3 S.H.**
Under the pens of Brahms, Berlioz, Mahler and others, the symphony no longer followed four strict movements. Through the use of recordings, videos, and live concerts, students will become familiar with such works as Piano Concerto No. 1 by Chopin, Symphonic Fantastique by Berlioz, and Faust Symphony by Liszt. Instrumentalists will engage in actual performance of music of the Romantic period. Non-instrumentalists will participate through observation, laboratory, and field experiences. Non-instrumentalists may choose the course with the permission of the instructor. You do not need to play an instrument to take this course.

MUS* 246 Orchestra: Modern Era **3 S.H.**
This course focuses on the music of the Modern Period in the 20th Century. Impressionist music by Ravel and Debussy, 12 tone compositions by Schoenberg, electronic music by Stockhausen, show tunes by Gershwin, Rodgers, and other American composers, nationalistic music by Shostakovich, film music by Prokofiev and Williams, American jazz and "Tin Pan Alley" tunes are some of the areas to be considered. Through the use of recordings, video, and live concerts, students will become familiar with Barber's Adagio for Strings, Gershwin's Rhapsody in Blue, and Stravinsky's Firebird Suite as well as many others. Instrumentalists will engage in actual performance of music of the Modern Period. Non-instrumentalists will participate through observation, laboratory, and field experiences. Non-instrumentalists may choose the course with the permission of the instructor. You do not need to play an instrument to take this course.

MUS* 250 Class Piano III (MUS 143) **3 S.H.**
Introduces piano repertoire of such composers as Bach, Clementi, Mozart, and Beethoven at the early intermediate level, focusing on technique, interpretation, and structural aspects of the sonata form in Classical piano music. Emphasizes such technical studies as easy Pischna and Hanon, all major and minor scales and arpeggios in four octaves, and the standard cadence chord progression with inversions in all keys.

MUS* 251 Class Piano IV (MUS 144)   3 S.H.
Continues the study of piano repertoire by Baroque and Classical masters. Introduces Romantic piano works by
Beethoven, Chopin, Liszt, Shubert, and Schumann and contemporary and impressionistic works by such composers
as Debussy and Bartok. Explores compositional aspects of such longer Romantic works as the Ballade or Scherzo,
examining the technical difficulties of their performance. Piano IV continues the study of piano technique with Pischna
and Hanon as well as practicing all major and minor scales and arpeggios in four octaves, in parallel thirds and sixths,
and the standard cadence chord progression.

MUS* 299 Special Topics in Music   1-6 S.H.

NUCLEAR MEDICINE TECHNOLOGY

NMT* 101 Introduction to Nuclear Medicine (NMT 111)   3 S.H.
Introduces the student to the healthcare environment and the field of nuclear medicine technology. Topics covered
include: patient care, medical ethics, medicolegal issues, radiation safety and protection and an introduction to
radiopharmacy. Prerequisites: Acceptance into the Nuclear Medicine Technology Program and full attendance during
freshman orientation. Corequisite: NMT* 111.

NMT* 102 Nuclear Medicine Procedures I   3 S.H.
Introduces basic nuclear medicine technology procedures. Prerequisites: Acceptance into the Nuclear Medicine
Technology Program and full attendance during freshman orientation. Corequisites: NMT* 111.

NMT* 111 Clinical Practicum I (NMT 112)   1 S.H.
Introduces the clinical setting and general nuclear medicine areas through simulated labs and hands-on training.
Prerequisite: Acceptance into the Nuclear Medicine Technology Program and full attendance during freshman
orientation. Corequisite: NMT* 101 and NMT* 102.

NMT* 112 Clinical Practicum II (NMT 125)   1 S.H.
Emphasizes, through simulated labs and hands-on training, the handling and positioning of patients and the application
of clinical nuclear medicine procedures. Prerequisites: NMT* 113 for NMT* AS degree students only. Corequisite:
NMT* 121.

NMT* 113 Clinical Internship I   0.5 S.H.
Students attend clinical training Monday through Friday, eight hours per day. Prerequisite: NMT* 111.

NMT* 121 Physics in Nuclear Medicine (NMT 122)   3 S.H.
Introduces the physics of nuclear medicine as a framework for the principles behind nuclear composition, energy
concepts, and units of radioactive decay. Stresses radiation level calculation and understanding the process by which
radiation interacts with matter. Prerequisites: PHY* 111. Corequisite: NMT* 112.

NMT* 126 Clinical Internship II   1.5 S.H.
Students attend clinical training Monday through Friday, eight hours per day. Prerequisite: NMT* 112.

NMT* 201 Nuclear Medicine Procedures II (NMT 213)   3 S.H.
Covers nuclear medicine procedures, emphasizing anatomy, physiology, and pathology as they pertain to oncology,
infection/inflammation, skeletal, cardiovascular and respiratory systems. Students perform Internet searches
and present oral reports on findings pertinent to current nuclear medicine procedures. Prerequisites: NMT* 102.
Corequisites: NMT* 112 (and RST* 217 for NMT* AS degree students only).

NMT* 202 Nuclear Medicine Instrumentation (NMT 224)   3 S.H.
Examines the processes of converting radiation interactions into electrical signals for counting and measuring by
nuclear probes and cameras. Assesses and investigates Nuclear Medicine camera systems and their physical imaging
characteristics in hands-on experiments. Corequisite: NMT* 211.

NMT* 203 Radiopharmacy (NMT 226)   3 S.H.
Covers the pharmacological basis, preparation, and quality control of radiopharmaceuticals used in nuclear medicine.
Prerequisite: CHE* 111. Corequisite: NMT* 211.

NMT* 211 Clinical Practicum III (NMT 215)   1.5 S.H.
Continues to develop competencies gained in Clinical Practicum II. Through simulated labs and hands-on training,
students will achieve competency in advanced imaging procedures and equipment use. Prerequisites: NMT* 121 and
NMT* 126. Corequisite: NMT* 203.

NMT 212 Clinical Practicum IV (NMT 221)   **1.5 S.H.**
Introduces a sophisticated use of nuclear medicine technology and instrumentation. Students build on competencies achieved in Clinical Practica I, II, and III. Prerequisite: NMT* 216. Corequisite: NMT* 221.

NMT* 216 Clinical Internship III   **0.5 S.H.**
Students attend clinical training Monday through Friday, eight hours per day. Prerequisite: NMT* 211.

NMT* 221 Nuclear Medicine Procedures III (NMT 228)   **3 S.H.**
Builds on the procedures and organ systems presented in Nuclear Medicine Procedures I, including pharmacological intervention, the central nervous, endocrine, gastrointestinal, genitourinary systems and radionuclide therapies. Students will examine case images and present findings pertinent to nuclear medicine procedures. Prerequisite: NMT* 201. Corequisite: NMT* 212.

NMT* 222 Introduction to Computers and Nuclear Medicine Applications (NMT 212)   **3 S.H.**
Introduces the use of computers in Nuclear Medicine Technology. Concentrates on computer hardware and acquisition, data analysis, and interpretation of computer studies in Nuclear Medicine. Prerequisite: NMT* 202. Corequisite: NMT* 212.

NMT 223* Nuclear Medicine Seminar (NMT 214)   **3 S.H.**
Reviews quality control procedures, state and federal regulations, radiation safety, radiobiology, marketing and management of nuclear medicine technology departments, and career and professional development skills. Corequisite: NMT* 212.

NURSING

NUR* 101 Introduction to Nursing Practice   **8 S.H.**
Focuses on concepts basic to nursing practice. Emphasis is placed on application of the nursing process, communication, and skill acquisition. Clinical and laboratory experiences offer opportunities to integrate theoretical principles and demonstrate caring and competence in beginning professional role development. (8 credits: 60 theory, 180 hours clinical)

NUR* 102 Family Health Nursing   **8 S.H.**
Focuses on providing holistic nursing care to families across the lifespan. Students focus on issues that effect the family, including childbearing, childrearing, geriatric care and intermediate health care needs. In addition, the course includes, selective adult, child and adolescent psychiatric disorders. Students will have clinical rotations that provide experience caring for the childbearing family as well as caring for medical surgical clients across the lifespan. (8 credits: 60 hours theory, 180 hours clinical)

NUR* 103 Pharmacology for Families Across the Life Span   **1 S.H.**
Focuses on the principles of pharmacology and its nursing application to family health care needs and selective psychiatric disorders. (1 credit: 15 hours theory)

NUR* 130 LPN to RN Transition Practicum (45 hours)   **1 S.H.**
This course is the final component of the Connecticut League for Nursing LPN to RN Articulation plan for the Connecticut Community Colleges Nursing Program (CT-CCNP) which prepares LPNs to enter the CT-CCNP in the second year of study. Students enrolling in this course have been accepted for admission into the (CT-CCNP) and have chosen the option to enter the third semester. This course builds upon the content of Charter Oak State College NUR 190: LPN to RN Articulation Bridge Course by providing and integrating content that is specific to the CT-CCNP curriculum. Upon successful completion of Charter Oak State College Nursing 190, this course and the CT-CCNP pre-requisite and concurrent general education courses up to the second year of study, articulation credits are awarded per the escrow model and the LPN advances to NUR* 201 and NUR*202. This course provides clinical and laboratory learning activities through the CT-CCNP campus to which the student is admitted. NUR*130 cannot be applied as a free elective toward the CT-CCNP program of Study for the Associate of Science degree in Nursing. (Clinical and laboratory hour distribution is at the discretion of the campus attended). Pre-requisite Courses: Connecticut Community Colleges BIO*211: Anatomy & Physiology I, BIO*212: Anatomy & Physiology II, ENG*101: English Composition, BIO*235: Microbiology, PSY 111: General Psychology, PSY*201: Life Span, SOC* 101: Principles of Sociology; Charter Oak State College NUR 190: LPN to RN Articulation Bridge Course. Pass/Fail

NUR* 201 Nursing Care of Individuals and Families I   **9 S.H.**
Focuses on holistic care of individuals and families with a variety of health care needs across the lifespan. The health care needs of clients experiencing intermediate heath care needs and selective mental health disorders. Bioterrorism as a health care issue will be addressed. Clinical experience is provided for diverse populations of clients across the life span in acute care and community settings. Emphasis is placed on provision of safe and competent and development of the professional role as a member of a multidisciplinary health care team. Over the semester, students are increasingly challenged with more complex patient assignments in the clinical area. (9 credits: 60 hours theory, 225 hours clinical)

NUR* 202 Pharmacology for Individuals and Families with Intermediate Health Care Needs   1 S.H.
Focuses on the principles of pharmacology and its nursing application to individuals and families with intermediate health care needs and selective psychiatric disorders. (1 credit: 15 hours theory)

NUR* 203 Nursing Care of Individuals and Families II   8 S.H.
Focuses on providing holistic care to individuals, families, and groups with complex health care needs. It examines the effect of multi-system alterations and selected mental health disorders. The student will incorporate critical thinking, caring behaviors, professionalism and communications skills when providing care. Clinical experiences are provided in acute care, mental health care and community settings with an emphasis on managing multiple clients. (8 credits: 45 hours theory, 225 hours clinical)

NUR* 204 Pharmacology for Individuals, Families, and Groups with Complex Health Care Needs
**   1 S.H.**
Focuses on the principles of pharmacology and its nursing application to individuals and families with intermediate health care needs and selective psychiatric disorders. (1 credit: 15 hours theory)

NUR* 205 Nursing Management and Trends   2 S.H.
Focuses on the transition into the profession and the nurse's role in contemporary nursing practice. Professionalism is emphasized. Students will explore management principles and delegation of client care. Students will participate in critical thinking to evaluate current trends and contemporary issues in nursing. (2 credits: 30 hours theory)

NUTRITION - DIETETIC TECHNOLOGY

NTR* 101 Introduction to Dietetics (DTN 101)   3 S.H.
Discusses career and educational pathways for dietetic technicians and registered dietitians. Introduces students to the health care team concept and describes the roles of health professionals. Covers ethical issues in health care and nutrition.

NTR* 102 Nutrition I: Principles of Nutrition (DTN 111)   3 S.H.
Investigates the basic nutrients and current guidelines for healthy food preparation and selection.

NTR* 103 Seminar in Dietetics I (DTN 105)   3 S.H.
Applies the principles of nutrition assessment and menu planning to meet the needs of individuals and groups with a variety of nutritional requirements. Pre- or Corequisite: NTR* 104.

NTR* 104 Nutrition II (DTN 112)   3 S.H.
Focuses on nutrition throughout the life cycle, including nutrition for athletes. Presents the physiological conditions of common nutritional disorders and the fundamentals of nutrition assessment. Introduces medical terminology. Prerequisites: BIO* 115 and NTR* 102.

NTR* 105 Food Management Systems (DTN 115)   3 S.H.
Introduces principles of institutional food service management. Includes fundamentals of menu planning, recipe standardization, purchasing, production, equipment, quality control, marketing, and use of computers in food service. Prerequisite: MAT* 095 or higher.

NTR 106 Culinary Nutrition   2 S.H.
Provides a basic understanding of nutrition and its relationship to health. Provides an overview of nutrients, digestion, absorption, and metabolism. This course will also provide information on good food sources of the nutrients, purchasing, cooking methods and menu planning. Offered in the fall semester only.

NTR* 120 Foods (DTN 109)   3 S.H.
Presents and applies basic food preparation, basic food science, cooking equipment, menu planning, developing and testing quality food products. Prerequisite: MAT* 075 or higher. *(HSP* 101 may be substituted for NTR* 120 with permission from the Program Coordinator.)*

NTR* 201 Community Nutrition Education (DTN 211)   3 S.H.
Provides a community approach to nutrition education. Students will develop skills in presenting nutrition education programs to small groups or classes. Prerequisites: NTR* 104 and COM* 171.

NTR* 202 Nutrition III (DTN 205)   3 S.H.
Focuses on physiological principles and nutritional needs of complex conditions. Increases medical terminology vocabulary. Prerequisite: NTR* 104.

NTR* 203 Seminar in Dietetics II (DTN 209)   **3 S.H.**

Continues the study of individual and group nutritional care focusing on the assessment, planning, implementation, and evaluation of nutritional care plans for individuals in hospitals or long term care facilities. Develops the knowledge needed for entry-level dietetic practice and the professional skills necessary to compete in the job market. Prerequisite: NTR* 102.

NTR* 204 Nutrition IV (DTN 206)   **3 S.H.**

Completes the study of therapeutic diets begun in Nutrition I, II, and III. Prerequisite: NTR* 202.

NTR* 210 Nutrition Field Experience I (DTN 106)   **1 S.H.**

Develops basic skills and competence in the delivery of food and nutrition care. Students spend two days a week in supervised practice, rotating through a variety of food service, clinical, and community nutrition programs. The practicum begins in the summer and continues through the fall semester. Prerequisites: NTR* 103, NTR* 120, and HSP* 108.

NTR* 212 Nutrition Field Experience II (DTN 210)   **1 S.H.**

Refines student skills in the delivery of food and nutrition services in a variety of settings, including acute and long-term care, institutional food service, and community nutrition programs. Students spend two days per week at arranged field sites. Prerequisite: NTR* 210.

NTR* 214 Nutrition Field Experience III   **1 S.H.**

Refines student skills in the delivery of food and nutrition services in a variety of settings, including acute and long-term care, institutional food service, and community nutrition programs. Students spend two days per week in arranged field sites. Prerequisites: NTR* 210 and NTR* 212.

PHILOSOPHY

PHL* 101 Introduction to Philosophy (PHI 101)   **3 S.H.**

Introduces philosophical thinking and life perspectives. Applies philosophical analysis and criticism to moral, social, and religious issues.

PHL* 111 Ethics (PHI 104)   **3 S.H.**

Provides an overview of the formation and expression of Western philosophical thinking. Explores some of the views and concepts supporting ethical values in the contemporary social, political, and economic environment. Considers ethical problems as they relate to current ideologies.

PHL* 131 Logic (PHI 202)   **3 S.H.**

Introduces inductive and deductive reasoning and various modes of argumentation. Focuses on both traditional and modern logic.

PHYSICS

PHY* 101 Physics for Today (PHY 115)   **3 S.H.**

Emphasizes conceptual understanding of the underlying principles of physics as applied to topics of current interest. Uses arithmetic and simple algebra. Includes classroom demonstrations.

PHY* 109 Fundamentals of Applied Physics (PHY109)   **4 S.H.**

Introduces the principles of physics, including measurement, motion, forces in one dimension, concurrent forces, work and energy, simple machines (including mechanical advantage), rotational motion, and nonconcurrent forces. Three hours of lecture / two hours of laboratory. Prerequisite: MAT* 115 or equivalent.

PHY* 111 Physics for the Life Sciences (PHY 116)   **4 S.H.**

Applies the principles of physics to health science. Basic algebra and trigonometry are used. Three hours of lecture / three hours of laboratory. Prerequisite: MAT* 115 or 137 or placement in MAT* 142 or higher.

PHY* 121 General Physics I (PHY 121)   **4 S.H.**

Presents the basic principles of physics using algebra and trigonometry. Studies translational and rotational motion, static equilibrium, work and energy, mechanical vibrations and waves, and the thermal properties of matter. Three hours of lecture/three hours of laboratory. Prerequisite: MAT 137.

PHY* 122 General Physics II (PHY 122)   **4 S.H.**
A continuation of PHY* 121. Studies electricity, magnetism, light, relativity, and atomic and nuclear physics. Three hours of lecture / three hours of laboratory. Prerequisite: PHY* 121.

PHY* 221 Calculus-Based Physics I (PHY 210)   **4 S.H.**
Presents principles of physics. Uses elementary concepts of calculus. Addresses classical dynamics, rigid-body motion, harmonic motion, wave motion, acoustics, thermal properties of matter. Three hours of lecture / three hours of laboratory. Prerequisite: Secondary school physics, MAT* 254.

PHY 222* Calculus-Based Physics II (PHY 212)   **4 S.H.**
Studies thermodynamics, electric and magnetic fields, electromagnetic waves, basic geometrical optics, wave properties of light, and quantum effects; introduces atomic physics, wave mechanics and special relativity.   Three hours of lecture / three hours of laboratory. Prerequisite: PHY* 221. Prerequisite: MAT* 256.

POLITICAL SCIENCE

POL* 102 Introduction to Comparative Politics (POL 102)   **3 S.H.**
Examines comparative politics as a traditional and significant component of the political science curriculum. Illustrates the diversity and similarity that exist among the world's major foreign powers and the emerging "Third World" nations.

POL* 111 American Government (POL 101)   **3 S.H.**
Studies the structure and framework of American government and the interrelationship of politics on the national, state, and local levels. Emphasizes the political, legislative, judicial, and administrative processes of government. Analyzes the basic philosophy of American government and political beliefs.

POL* 208 American Public Policy (POL 201)   **3 S.H.**
Investigates the policy-making process in the United States. Using a functional approach, analyzes public policy in a sequential manner, from the initial identification of a problem to its solution, including the assessment and appropriate revision or termination of policy. Examines case studies and analyzes current policy issues.

POL* 250 Theory of Human Rights   **3 S.H.**
Provides the theoretical grounding, both historical and conceptual, for further studies about the role of human rights in contemporary politics and social life. Explores the historical development and present discussions of the concept of human rights as well as its role in a variety of contemporary issues within domestic and international politics and culture.

POL* 280 New Haven and The Problem of Change in the American City (POL 280)   **3 S.H.**
Offered in cooperation with Yale University. Examines the rapid transformation of New Haven and other American cities over the past century as case studies of urban change and urban policy. Themes include the planning and policy implications of the emigration of higher income populations from the inner city.

POL* 295 Political Science Internship (Course has not been offered in the past two years**)   3–12 S.H.**
Assigns interns to individual legislators to assist in analyzing legislative proposals, monitoring committee and floor action, tracking, drafting news releases and speeches, research, constituent casework, etc. The internship includes orientation sessions, seminars, and written papers.

POL* 299 Independent Study in Political Science   **1–12 S.H.**

PSYCHOLOGY

PSY* 104 Psychology of Adjustment (PSY 116)   **3 S.H.**
(Course has not been offered in the past two years)

Includes both theoretical and practical learning through the laboratory method of "experience, analysis, and projection." Provides a clear and basic framework for analyzing individual and group behavior. Groups of students define their own terms for existence and then use these terms to gain further insight and knowledge about themselves, their future roles, and their learning goals. Establishes the need for skill development in human relations and presents foundations for developing those skills.

PSY* 105 Group Dynamics (PSY 125)   **3 S.H.**
Examines current theories about and research into group process and leadership. Examines students' own performance as group members and leaders. Combines didactic and experiential learning situations. Pre/co-requisite: PSY* 111 or instructor's permission.

PSY* 111 General Psychology I (PSY 101)   **3 S.H.**
Provides the student with a general introduction to fundamental topics and areas in the field of psychology. Students will learn about the history of psychology, various scientific methods for research, neurological underpinnings of behavior and diverse subjects relevant to the field, including sensation, perception learning, memory, and personality. Pre-requisite: ENG* 063 and/or ENG* 082 or eligibility for ENG* 101.

PSY* 112 General Psychology II   **3 S.H.**
A survey course that is a continuation of PSY* 111. Topics include health psychology, human development, psychological disorders, states of consciousness and motivation and emotion. This is the second part of a two-semester sequence and it is recommended that students take both semesters (PSY* 111 and 112). Pre-requisite: PSY* 111. Co-requisitie: ENG* 101.

PSY* 122 Child Growth and Development (PSY 105)   **3 S.H.**
Covers child development, from birth through adolescence, emphasizing the preschool child. Considers the physical, emotional, mental, and social characteristics of the child at various stages of development. Views life stages in terms of a variety of theoretical frameworks: Freud, Erickson, Piaget, and representative behaviorists. Requires each student to do twenty hours of fieldwork and observation in a preschool or approved alternative setting. Prerequisite: eligible for ENG* 063 or higher.

PSY* 201 Life Span Development   **3 S.H.**
Provides an overview of the physical, cognitive, and psychosocial development of humans from birth to death. There is an emphasis on distinct periods such as the development of fetus; infancy; early, middle and late childhood; adolescence; and the phases of adulthood. It views life stages from a variety of theoretical frameworks; Freud, Erikson, Piaget, Vygotsky, and other representative behaviorists. It also looks at cultural and historical influences on development.

PSY* 209 Psychology of Aging (PSY 109)   **3 S.H.**
Presents aging within a psychological framework. Students will develop an understanding of normal, healthy aging and the emotional problems of the aged. Emphasizes the emotional and behavioral aspects of aging and effective techniques for communicating with the elderly.

PSY* 210 Death and Dying (PSY 205)   **3 S.H.**
Examines death and dying with regard to the individual, the family, the caretakers, and society at large.

PSY* 214 Advanced Child Growth and Development (PSY 202)   **3 S.H.**
Develops a theoretical basis for child program analysis. The first half of the course concentrates on personal aspects of child development by studying the works of primary theorists: Piaget, Erickson, Freud, Watson, and Skinner. The second half of the course covers such social aspects of child development as family interrelationships and social values. Prerequisite: PSY* 122.

PSY* 233 Theories, Methods and Practice of Counseling and Therapy   **3 S.H.**
Addresses the basic tenets of existing behavioral, cognitive and humanistic counseling theories. Case studies will be used to address how primary goals, strategies and anticipated outcomes are developed during the therapeutic process of counseling individuals with diagnosed mental health problems. Prerequisites: A grade of C or better in both PSY* 111, PSY* 245.

PSY* 240 Social Psychology (PSY 203)   **3 S.H.**
Considers basic principles of human behavior encompassing the social milieu. Focuses on socialization, communication, and intergroup relations as they are influenced by individual personality factors and social structures. Analyzes values and group organization and function in determining methods used in social psychology.

PSY* 245 Abnormal Psychology (PSY 130)   **3 S.H.**
Surveys a broad range of psychological disorders, their symptoms, etiology, and treatments. An introduction to the historical treatment of persons with mental illnesses provides context to understand current trends. Students will investigate major diagnostic categories including mood disorders, anxiety disorders, psychotic disorders including schizophrenia, personality disorders, and other diagnostic categories. Prerequisites: ENG* 101 and PSY* 111 (both with a C or better).

PSY* 247 Industrial and Organizational Psychology (PSY 151)   **3 S.H.**
(Course has not been offered in the past two years**)**
Applies psychological principles to business and industry. Includes discussion of job evaluation and analysis, management relations, and individual and group relations.

PSY* 257 Statistics for the Behavioral Sciences   **3 S.H.**
Provides the foundational understanding in descriptive and inferential statistics necessary to reading research articles and to conducting research in the behavioral sciences. Students will learn about the management and analysis of behavioral sciences data using SPSS. Will cover measures of central tendency and variability, frequency distribution, probability, and hypothesis testing. Particular emphasis will be applied to the computation of t-tests, correlation, ANOVA, and non-parametric measures including chi-square. A statistical or scientific calculator will be required. Course will be held in a computer lab. Pre-requisites: ENG* 101, MAT* 122 or MAT* 137 (or higher), PSY* 111 (all with a C or better).

PSY* 258 Behavior Modification (PSY 110)   **3 S.H.**
Examines and implements basic psychological learning principles. Includes the academic and psychological aspects of learning, including the basic stimulus-response application of behavior modification.

PSY* 299 Independent Study   **3 S.H.**

QUALITY CONTROL

QUA* 114 Principles of Quality Control (MFG 114)   **3 S.H.**
Introduces the terminology, principles, and procedures of quality control and quality assurance. Investigates specific techniques and procedures used in quality control and quality assurance. Topics include new design control, incoming material control, product control, and special process studies.

RADIATION THERAPY

RDT* 101 Introduction to Radiation Therapy I (RDT 111)   **3 S.H.**
Introduces the field of Radiation Therapy. Focuses on quality assurance, basic dosimetry concepts, radiographic anatomy, clinical objectives, and medical and technical terminology. Also includes the fundamentals of radiography, film construction, processing, and x-ray generation. Other topics include professional ethics, patient care procedures, pharmacology, nutrition, and oncology. Prerequisite: Admission to the program and full attendance during freshman orientation. Corequisite: RDT* 111.

RDT* 102 Radiation Therapy II (RDT 124)   **3 S.H.**
Builds on basic dosimetry skills. Includes dose calculations for external beam, radiation therapy equipment, practical treatment planning, and brachytherapy applications. Prerequisite: RDT* 101 and RST* 200. Corequisite: RDT* 112 and RST* 213.

RDT* 111 Clinical Practicum I (RDT 112)   **1 S.H.**
Introduces the clinical setting and the basics of radiation therapy. Through supervised direct patient care and phantom work, provides experience in technical and patient care skills. Students must spend two days a week in the affiliate hospital, mastering clinical competency levels one and two. Prerequisite: Admission to the program and full attendance during freshman orientation. Corequisite: RDT* 101.

RDT* 112 Clinical Practicum II (RDT 125)   **1 S.H.**
Through supervised direct patient care and phantom work, students master patient care skill levels one and two. Students are evaluated on basic set-up competencies. Students must spend two days a week in the affiliate hospital, mastering technical competency levels one, two, and three. Prerequisite: RDT* 111. Corequisite: RDT* 102 and RST* 213.

RDT* 113 Clinical Internship I   **1 S.H.**
Students attend clinical training Monday through Friday, eight hours per day. Prerequisite: RDT* 111 and RDT* 101.

RDT* 126 Clinical Internship II   **3 S.H.**
Students attend clinical training Monday through Friday, eight hours per day. Prerequisite: RDT* 112.

RDT* 201 Radiation Oncology I (RDT 211)   **3 S.H.**
Reviews anatomy and physiology, methods of diagnosis, etiology, epidemiology, staging, aim of radiation therapy, dose, and fractionation principles of specific tumor sites. Prerequisites: BIO* 211 and BIO* 212. Corequisites: RDT* 202, RDT* 205 and RDT* 211.

RDT* 202 Radiation Therapy III (RDT 214)   **3 S.H.**
Addresses radiographic and cross-sectional anatomy, simulator techniques, and treatment planning through lectures and laboratory experiments. All setup techniques work in conjunction with diseases covered in Oncology I. Prerequisite: RDT* 102. Corequisites: RDT* 211, RDT* 201 and RDT* 205.

RDT* 203 Radiation Oncology II (RDT 226)   3 S.H.
Builds on skills learned in RDT* 201. Reviews anatomy and physiology, methods of diagnosis, etiology, epidemiology, staging, aim of radiation therapy, dose, and fractionation principles of specific tumor sites. Prerequisite: RDT* 201. Corequisites: RDT* 204 and RDT* 212, RDT* 222, RDT* 223, RDT* 224.

RDT* 204 Radiation Therapy IV (RDT 220)   3 S.H.
Builds on skills learned in RDT* 202, focusing on radiographic anatomy, cross-sectional anatomy, simulator techniques, and treatment planning through lectures and laboratory experiments. Addresses all diseases introduced in Oncology II. Prerequisites: RDT* 202 and RDT* 205. Corequisites: RDT* 203, RDT* 212, RDT* 222, RDT* 223, RDT* 224.

RDT* 205 Dosimetry and Computer Assisted Treatment Planning (RDT 216)   3 S.H.
Introduces computers, principles of operation, and application theory. Emphasizes basic and advanced concepts of clinical dosimetry and treatment planning by computers through laboratory experience. Includes such advanced dosimetry concepts as dose calculations, construction of tissue compensators and custom molds, dose measurement, brachytherapy, sources applicators, implant methods, and dose verification. Prerequisites: RDT* 102, RDT* 112, and PHY* 111. Corequisites: RDT* 201, RDT* 202 and RDT* 211.

RDT* 211 Clinical Practicum III (RDT 215)   2 S.H.
Through supervised direct patient care and phantom work, the student refines patient care skill levels one and two. Evaluation of mandatory set-up competencies continues. Students must spend three days a week in the affiliate hospital, refining technical competency levels one, two, and three. Prerequisite: RDT* 112. Corequisites: RDT* 201, RDT* 202 and RDT* 205.

RDT* 212 Clinical Practicum IV (RDT 221)   2 S.H.
Through supervised direct patient care and phantom work, students must demonstrate proficiency in mandatory clinical objectives and competencies and dosimetry. Students are expected to complete all required set-up competencies. Prerequisites: RDT* 205 and RDT* 211. Corequisite: RDT* 203, RDT* 204, RDT* 222, RDT* 223 and RDT* 224.

RDT* 218 Clinical Internship III   1 S.H.
Students attend clinical training Monday through Friday, eight hours per day. Prerequisite: RDT* 211.

RDT* 222 Radiobiology and Protection   3 S.H.
Introduces biological responses to radiation and factors influencing radiation effects, tissue sensitivity, tissue tolerance, and clinical applications. Also includes a study of radiation protection principles, units of measurement, surveys, methods of protection, brachytherapy, personnel monitoring, and regulatory agencies and regulations. Prerequisite: RDT* 211. Corequisite: RDT* 203, RDT* 204, RDT* 212, RDT* 223 and RDT* 224.

RDT* 223 Radiation Physics II (RDT 228)   3 S.H.
Builds on skills learned in RST* 213. Emphasizes x-ray production, x-ray properties, gamma rays, electrons, and their respective interactions with matter. Other topics include the measurement of radiation, radioactivity, and particulate radiation. Presents brachytherapy, including radioactive sources, exposure rate, implant dosimetry, and remote afterloading units. Prerequisite: RST* 213. Corequisite: RDT* 203, RDT* 204, RDT* 212, RDT* 222 and RDT* 224.

RDT* 224 Radiation Therapy Senior Seminar   2 S.H.
A one semester course characterized by the active role expected of students in the field of research. This will include investigation, preparation, presentation, and discussion of clinical areas. The course requires a working knowledge of radiation therapy. It prepares senior students for successful entry into the field of radiation therapy and improves their critical thinking skills. Theoretical and practical studies are integrated through research and application. Students are also required to define, compare, analyze and assess medical practice in health care delivery. Prerequisites: RDT* 201, RDT* 202, RDT* 211. Corequisites: RDT* 203, RDT* 204, RDT* 212, RDT 222, RDT* 223.

RADIOGRAPHY

RAD* 104 Introduction to Radiography (RAD 111)   3 S.H.
Introduces factors influencing radiographic quality and patient protection, basic equipment components and elementary principles of exposure. Through classroom lectures and laboratory study, the student will gain the basic knowledge to function as an entry level student radiographer in the clinical practicum and be able to advance in a progressive manner. Prerequisite: Acceptance into the Radiography Program. Co-requisites: RAD*105, RAD*193.

RAD* 105 Radiographic Anatomy and Procedures I (RAD 124)   3 S.H.
Emphasizes task objectives and competencies in general radiographic procedures and related anatomy, medical terminology, film critiquing, and selection of technical factors. Prerequisites: Acceptance into the Radiography Program. Corequisites: RAD*104, RAD* 193.

RAD* 116 Physics in Radiography   **3 S.H.**
Provides students with an understanding of basic radiation physics and its effects on image quality, parameters of radiographic technique and equipment operaton and maintenance. The purpose, components and practical application of radiographic imaging systems are presented and discussed. The concepts of x-ray production, emission, and interaction with matter will be covered. Pre-requisites: MAT* 115, PHY* 111, RAD* 104. Corequisite: RAD*204**.**

RAD* 187 Clinical Internship I   **1 S.H.**
Students attend clinical training Monday through Friday, eight hours per day. Prerequisites: RAD* 104, RAD* 105, and RAD* 193.

RAD* 188 Clinical Internship II   **2 S.H.**
Students attend clinical training Monday through Friday, eight hours per day. Prerequisites: RAD* 194, RAD* 204, and RST* 213.

RAD* 193 Clinical Practicum I (RAD 112)   **1 S.H.**
Introduces the clinical setting and general radiographic areas of Diagnostic Imaging through simulated labs and supervised clinical practice. Students must spend two days a week in the clinic at level I training areas mastering basic competencies. Pre-requisite: Acceptance into the Radiography Program. Corequisites: RAD*104, RAD*105.

RAD* 194 Clinical Practicum II (RAD 125)   **1 S.H.**
Provides the student with the opportunity to master Level I task objectives and competencies. Introduces level II task objectives and procedures through simulated labs and supervised clinical practice. The student must spend two days a week in the clinical setting. Pre-requisites: RAD*104, RAD*105, RAD*193. Corequisites: RAD*104

RAD* 196 Radiographic Anatomy and Procedures III   **3 S.H.**
Through classroom lecture and clinical practice, students will learn advanced imaging procesures including contrast studies, age specific considerations and cranial imaging. In addition, students will be responsible for presenting a professional presentation based on research of a specific disease and related case study. Prerequisites: RAD* 187, RAD* 188, and RAD* 204. Corequisite: RAD* 291.

RAD* 203 Principles of Radiographic Exposure I (RAD 212)   **3 S.H.**
Focuses on radiographic definition, contrast, and quality. Addresses film exposure, exposure table composition, special exposure techniques, and general radiographic techniques. Prerequisites: RST* 213. Corequisites: RAD* 196 and RAD* 291.

RAD* 204 Radiographic Anatomy and Procedures II (RAD 214)   **3 S.H.**
Introduces more complex radiographic procedures, anatomy, equipment, and medical terminology, while refining image critique and patient care skills. Prerequisites: RAD* 105, RAD* 193. Corequisites: RAD* 194 and RAD* 116.

RAD* 205 Computers in Medical Imaging: Advanced Practice (RAD 220)   **3 S.H.**
Covers the functionality of computers in medical imaging. Topics include the history of compuers and their use in medical imaging, digital imaging, conventional and digital fluoroscopy, the digital image including artifacts and QC, and PACS. The clinical practicum will continue to reinforce this didactic content. Prerequisites: RAD* 196, RAD* 203, and RAD* 291. Corequisites: RAD* 206, RAD* 218, and RAD* 292.

RAD* 206 Quality Assurance (RAD 225)   **3 S.H.**
Introduces evaluation of radiographic systems and radiographs to assure consistency in the production of quality imaging. Discusses radiographic quality assurance concepts necessary for identifying diagnostic quality. Presents tests and procedures to evaluate these standards through practical application. Reviews state and federal regulations. Prerequisites: RAD* 203 and RST* 213. Corequisites: RAD* 222 and RAD* 292.

RAD* 215 Radiographic Pathology   **3 S.H.**
Provides an overview of different pathologic conditions that are demonstrated through diagnostic imaging. Lecture material will include the cause and treatment of disease as well as imaging factors and variations relating to the disease. Prerequisites: RAD* 188, RAD* 204. Corequisites: RAD* 196, RAD* 203.

RAD* 218 Senior Seminar (RAD 222)   **3 S.H.**
This course is the culmination of all radiographic anatomy and procedures courses in the Radiography Program. The course requires a good working knowledge of Radiography. Through critical thinking exercises, research projects and in class presentations, the course prepares students for successful entry into the field of radiography. More advanced imaging modalities including but not limited to CT, MRI, 3D Imaging, Interventional and Cardiovascular imaging are introduced at this time. Prerequisites: RAD* 196, RAD* 203, and RAD* 291. Corequisite: RAD* 292.

RAD* 222 Radiobiology and Protection (RAD 223)   3 S.H.
Covers the fundamental principles of radiobiology; molecular and cellular response, both direct and indirect; interaction with matter; protection in radiology; and health physics. Presents sensitivity and cell recovery with the OER, LET, and RBE. Focuses on exposure and dose in radiology, the workplace, and in the general population. Federal, state and local regulations and guidelines will be identified and their roles defined.
Prerequisites: RST* 213, RAD* 203, and RAD* 291. Corequisites: RAD* 206 and RAD* 292.

RAD* 286 Clinical Internship III   1 S.H.
Students attend clinical training Monday through Friday, eight hours per day. Prerequisites: RAD* 196, RAD* 203, and RAD* 291.

RAD* 291 Clinical Practicum III (RAD 215)   1 S.H.
Enables the completion of Level II task objectives and the refinement of competencies achieved in Clinical Practicum II. Stresses sophisticated imaging procedures and equipment use through simulated labs and supervised hands-on training. Students must spend three days a week in the clinical setting, demonstrating required competency through labs and actual practice. Prerequisites: RAD* 188 and RAD* 204. Corequisite: RAD* 196.

RAD* 292 Clinical Practicum IV (RAD 221)   1 S.H.
Focuses on level III competency areas, and continues to introduce more sophisticated imaging procedures and equipment use through simulated labs and supervised hands-on training. Through demonstration and practice, students refine all prerequisite tasks and objectives and complete all exit competency requirements. Students must spend three days per week in the clinical setting. Pre-requisites: RAD*196 and RAD*291. Co-requisites: RAD*205, RAD*206, RAD*218, RAD*222.

RADIOLOGIC TECHNOLOGY

RST* 110 Introduction to Radiology   3 S.H.
Introduces the field of radiology and develops the necessary skills of a health care professional. Emphasizes radiography, nuclear medicine, and radiation therapy by incorporating lectures with field site visits. Addresses the role of an allied health professional in the hospital and community setting. Explores career potentials and alternatives. Includes clinical site visits.

RST 200 Cross Sectional Anatomy   3 S.H.
This course emphasizes the physical relationships of anatomic structures to one another. It develops a three-dimensional understanding of anatomy. Computer-generated sectional images will be used to display the relational anatomy in multiple planes, such as axial (transverse), sagittal, and coronal. It emphasizes the body's natural boundaries and spaces. Bony structures and soft tissue will be investigated. To demonstrate the application of this knowledge, supplemental information on pathology will be included. Prerequisites: BIO*211 and BIO* 212.

RST* 213 Radiation Physics   3 S.H.
Introduces the concept of radiation, its sources, and its interaction with matter. Introduces electricity and magnetism, the x-ray machine, circuits, components, and practical application. Prerequisites: RAD*104 **or** RDT*101, RDT*111, and PHY* 111, MAT* 115. Corequisites: RAD* 204 **or** RDT*102.

RST* 217 Clinical Pathology   3 S.H.
Investigates the various aspects of human disease. Covers diseases pertinent to radiology. Topics include general concepts of disease; inflammation and repair; neoplasms; and diseases of the immune, cardiovascular, respiratory, digestive, urinary, endocrine, musculoskeletal, reproductive, and nervous systems. A brief review of anatomy and physiology precedes lectures on specific pathological processes. Also presents the medical terminology of pathology. Prerequisites: BIO* 211 and BIO* 212.

RST* 250 Methods of Teaching in a Clinical Setting   3 S.H.
Intended for clinical instructors/supervisors in secondary and post secondary allied health occupational programs. Presents the skills needed to teach, supervise, and evaluate students/trainees in the clinical setting. Focuses on the role of clinical instructors/supervisors, developing measurable objectives, assessing learning styles, and using appropriate evaluation instruments. Upon completion of this course, participants will be granted a certificate of attendance and can apply for CEUs to their respective accrediting agencies. Prerequisite: Program director's permission.

RET* 101 History of Railroading   3 S.H.
Covers the history and traditions of railroading and the industry's role in the North American economic development. Corequisite: ENG* 043/073 or placement into ENG* 063 or higher.

RET* 110 Careers in the Railroad   2 S.H.
Provides information about technical careers in railroading to assist students to choose suitable career paths. Requires field trips that will demonstrate the relationships among technical work groups in day to day railroad operations. Pre- or corequisite: RET* 101.

RET* 120 Railroad Rules, Regulations, Standards & Practices   3 S.H.
Provides participants with an overall understanding of governmental rules, regulations, standards, and practices as they apply to a railroad operation. Study includes a review of Code of Federal Regulations, Part 49, Railroad Standards and Practices Manual (AREMA) and various railroads' book of rules. Pre- or corequisite: RET* 101.

RET* 220 Safety in the Railroad Workplace   3 S.H.
Covers the principles and policies governing railroad safe work practices. Upon successful completion of this course, the student should be able to describe safety policies, including the application of team processes, use and care of personal protective equipment, lockout/tag out procedures, and hearing conservations. Pre-requisite: RET* 120.

RET* 230 Reading and Interpreting Railroad Diagrams   2 S.H.
Provides participants with an overall understanding of how to read and interpret railroad electrical diagrams. Course topics will include a review and discussion of the following: ladder diagrams, contractors, motor starters, motors, programmable logic controller, railroad electrical symbols. Pre or co-requisite: EET* 110.

RET* 240 Railroad Pneumatics and Hydraulic Controls   4 S.H.
Introduces participants to the basic components, controls and functions of railroad pneumatics and hydraulics. Course topics include standard symbols, pumps, control valves, control assemblies, actuators, maintenance procedures and switching and control devices.   Three hours lecture/two hours lab. Pre or corequisite: MEC* 234.

RET* 242 Railroad HVAC Systems   4 S.H.
Provides participants with an overview of HVAC systems used on railcars. Basic hand and specialty tools and equipment will be covered as well as basic laws of heat transfer, thermo-dynamics and heat load. The study of the basic refrigeration cycle and its components will be introduced. In addition, students can qualify to obtain certification on the proper handling of refrigerants to include their effects on the environment. Three hours lecture/two hours lab. Pre-requisite: PHY* 121.

RET* 244 Railroad Electro-mechanical Troubleshooting   4 S.H.
Introduces participants to the tools, methods and techniques for troubleshooting electro-mechanical problems in machines and rolling stock equipment (trains). Three hours lecture/two hours lab. Pre-requisite: MEC* 234.

RET* 250 Railroad Signaling & Switching   4 S.H.
Provides participants a basic understanding of a railroad signal system, including track circuits and applicable federal laws/guidelines. Three hours lecture/two hours lab. Pre-requisite: EET* 110 and RET* 120.

RET* 252 Railroad Communications   4 S.H.
Introduces participants to a basic understanding of railroad communications. Course topics include frequency and pulse modulation, AM and FM transmitters and receivers, electromagnetic radiation, digital data communication, and applicable laws and regulations. Three hours lecture/two hours lab. Pre-requisite: RET* 250.

RET* 254 Railroad Maintenance, Troubleshooting and Repair   4 S.H.
Introduces students to the tools, methods and techniques for troubleshooting signal and communication problems in switch machines and communication equipment. Three hours lecture/two hours lab. Pre-requisite: MEC* 234.

RET* 270 Railroad Practicum   3 S.H.
Provides students with experience within the railroad workplace of the degree option that the student is pursuing. Students work closely with railroad employees and under the supervision of a railroad team supervisor. Pre-requisite: RET* 220.

READING (See English)

BRE* 202 Real Estate Principles   **4 S.H.**
Required for real estate salesperson pre-licensing in the State of Connecticut. Provides comprehensive introduction to the real estate business and those interest in learning about this exciting industry. Will introduce brokerage, listing agreements, buyer/seller representation, ownership of real estate, legal descriptions, taxes, contracts, liens, transfer or title and more. Students intending to sit for the State of Connecticut Real Estate Exam must attend and pass this course with a grade of 70 or better. Course material is extensive and students are expected to complete considerable reading assignments.

SCIENCE

SCI* 102 Perspectives in Natural Science (PSC 100)   **3 S.H.***
Surveys physics, chemistry, astronomy, and biology. Intended for students with a limited science background. *Credit does not count toward meeting degree requirements.

SIGN LANGUAGE

SGN* 101 Sign Language I (SLN 101)   **3 S.H.**
An introduction to American Sign Language, the language used by the Deaf Community in the United States. Covers the fundamental structure of ASL grammar, introduces basic information about the deaf community and deaf culture. This is the first course in a four-course sequence that satisfies the foreign language requirement of the associate in arts degree.

SGN* 102 Sign Language II (SLN 102)   **3 S.H.**
Builds on skills learned in American Sign Language I. Reinforces the fundamentals of ASL grammar and presents more information about the deaf community and deaf culture. Prerequisite: SGN* 101.

SOCIOLOGY

SOC* 101 Principles of Sociology (SOC 101)   **3 S.H.**
Introduces the philosophy, methods, and problems of sociology. Emphasizes culture, society, and how social arrangements infringe upon personality and group behavior.

SOC* 103 Social Problems (SOC 200)   **3 S.H.**
Develops an understanding of contemporary society through a thorough view of the nature of man and society. A study of how social problems arise and are perpetuated and of the underlying social conditions from which they arise.

SOC* 104 Sociology of the Family (SOC 104)   **3 S.H.**
Presents a sociological evaluation of modern marriages and family life. Topics include preparation for marriage, dating, courtship, marriage-career analysis, married life, parent-child relations, and sexual adjustments.

SOC* 106 Technology and Society (SOC 114)   **3 S.H.**
Focuses on the role of various art forms (e.g., painting, sculpture, and architecture) in pre-industrial and post-industrial societies. Develops students' visual, verbal, and cultural literacy.

SOC* 109 Society of Women (SOC 215)   **3 S.H.**
Analyzes the socialization of women into the female sex role. Examines the traditionally female roles in marriage and the family. Explores economic and political roles women have played in American society during the colonial and frontier periods, slavery, the abolitionist movements, the trade union movement, and the women's rights and suffrage movements. Concludes with a study of current women's groups and their different ideologies, concerns, and platforms for change.

SOC* 111 Child, Family, School and Community (SOC 110)   **3 S.H.**
An in-depth look at the child, family, and the relationship between the function of school, community, and the family. Will review the socialization process and the development of the child as a social being. An understanding of the young child and age-appropriate guidance for the young child will be examined. This course will address the role culture, diversity, and theory partner with families and community. An understanding of how to effectively communicate with families will also be explored. An understanding of how society and education partner in the socialization process for children from birth to age eight.

SOC* 114 Sociology of Aging (SOC 106)   3 S.H.
Studies aging people and the world around them. Examines elderly peoples' social lives, societal roles, personal adjustments, dependence, independence, and how society responds to their needs. A field project may be assigned in which students participate in a community activity involving the elderly.

SOC* 115 Nutrition and Aging (SOC 221)   3 S.H.
Explores the nutritional needs and special problems during various stages of the life cycle from infancy to old age. Includes presentations by professionals and others involved in the preparation and planning of nutritional programs; major emphasis is placed on the nutritional needs of the elderly and counseling techniques appropriate to elderly people.

SOC* 117 Minorities in the United States (SOC 217)   3 S.H.
Analyzes majority-minority group relations. Uses examples of experiences in the United States of such groups as African-Americans, Latinos, Native Americans, Jewish Americans, Asian Americans, Americans of European origins, and political, religious, and sexual minorities.

SOC* 131 Social and Environmental Issues (SOC 131)   3 S.H.
Introduces the philosophy, methods, and problems of environmental sociology. Emphasizes sustainability, the affects of social arrangements on humanity's interaction with the environment, population control, endangered species, and ethics.

SOC* 176 Methods of Social Research and Change (SOC 216)   3 S.H.
Introduces change-agent skills and the skills needed for conducting elementary research projects. Students must design and execute a change project and carry out a number of field projects. Develops data gathering skills, skills in designing data gathering tools, and methods of strategy evaluation.

SOC* 224 Caribbean Culture and Society (SOC 218)   3 S.H.
Presents an overview of the economic systems, history, and social-cultural dimensions of the countries of the Caribbean Basin, focusing on the island-nations of the Greater Antilles (Cuba, Dominican Republic, Haiti, Jamaica, and Puerto Rico). Also examines the ever-evolving relationship between the United States and the Caribbean, including issues of migration.

SOC* 230 The City (SOC 204)   3 S.H.
Analyzes social stratification in large urban centers, emphasizing sociological, economic, and racial differences. Considers the role of conflict as it affects group relations. Examines social disorder and the law, the problems of life in the ghetto, the role of power, racial ideology, and social changes. Considers the future of large cities and population movements.

SPANISH
At the beginning of the semester, a placement examination is given to students enrolled in SPA* 101 and SPA* 102. Advanced language instruction beyond the courses listed below is available through Independent Study by arrangement with the instructor.

SPA* 097 Basic Spanish I   3 S.H. *
Familiarizes students with key aspects of the Spanish language. Facilitates a solid foundation and builds confidence for higher level courses. Developed for those who have not had experience with the language and responds to the changing academic, occupational, technological, and cultural needs of a diverse population. Daily conversations and use of the language will be the key for success in this course. *(Credit does not count toward degree requirements).*

SPA* 101 Elementary Spanish I (SPA 101)   3 S.H.
Presents the essentials of grammar and reading with practice in speaking and writing basic Spanish. Develops conversational skills. Open to students with little or no experience in Spanish. *(Native speakers of Spanish are strongly discouraged from registering for this course.) Placement in this course is determined by score from the placement exam.*

SPA* 102 Elementary Spanish II (SPA 102)   3 S.H.
Emphasizes aural comprehension, basic conversation, and pronunciation. Emphasizes principles of grammar to improve reading, writing, and speaking. Prerequisite: SPA* 101 or appropriate score on placement test.

SPA* 201 Intermediate Spanish I (SPA 201)   3 S.H.
Introduces conversational Spanish through a presentation of Spanish civilization. Emphasizes written reports, readings of Spanish prose, and lectures on important literary figures. Prerequisite: SPA* 102 or appropriate score on placement test.

SPA* 202 Intermediate Spanish II (SPA 202)   **3 S.H.**
Emphasizes advanced composition and conversation. Discusses readings and reports on literary, artistic, and political figures of Spanish and Spanish-American civilization. Prerequisites: SPA* 201 or sufficient score on the placement test.

SPA* 221 Introduction to Puerto Rican St**udies I (SPA 221)**   **3 S.H.**
Surveys Puerto Rican literature: prose, drama, poetry, and essays from colonial times to the present. Prerequisite: ENG* 101, SPA* 202 or instructor recommendation.

SPA* 222 Introduction to Puerto Rican Studies II (SPA 222)   **3 S.H.**
Examines the process and consequences of cross-cultural contact and cultural changes in Puerto Rican society. Discusses historical, political, and sociological issues central to an understanding of the Puerto Rican culture. Prerequisite: ENG* 101, SPA* 202 or instructor recommendation.

SPA* 232 Spanish Composition for Professionals (SPA 210)   **3 S.H.**
This computer/classroom online course provides students with the basic knowledge to communicate appropriately in written Spanish by learning to write clearly, simply, and effectively and by using technology to develop writing ability. Prerequisites: SPA* 202 or equivalent or sufficient score on the placement test.

TELECOMMUNICATIONS

TEC* 105   Introduction to Telecommunications   **3 S.H.**
This course starts with an introduction to the techniques, principles, and terminology of the existing legacy voice telecommunications network. Public and private telecommunications are examined. Telecommunication equipment, switching and transmission technology will be demonstrated. Lectures, interactive learning and demonstrations will be employed.

TEC* 114 Telecommunications Electronic Circuits   **3.5 S.H.**
Electronic Circuits involves the study of analog electronic devices. All complex electronic systems consist of active devices arranged and organized in such a fashion as to perform a useful function. This course first deals with discrete active devices such as diodes and transistors and their applications. The last portion of the course deals with the theory and application of modern integrated circuits. The operational amplifier is presented as a "building block" for more complicated systems. Various op-amp applications are studied and the focus shifts to the more advanced integrated circuits, which are used as a sub-system in today's telecommunications systems. Prerequisite: CET* 110. Two hours of lecture and three hours of laboratory.

TEC* 207 Telecommunications Digital Electronics   **3.5 S.H.**
This course provides the student with a design-cycle approach (theory and experiment) to digital systems in telecommunications. Topics will include: a basic overview of digital concepts; Boolean concepts; basic and complex gates, functions, converters, and registers; basic and complex state machines; SSI, MSI, LSI, and VLSI IC families; D/A and A/D conversion; and an introduction to microprocessors and computers. Lecture will be supplemented by extensive course-synchronized hands-on laboratory. Prerequisite: TEC* 114. Two hours of lecture and three hours of laboratory.

TEC* 215 Telecommunications Fiber Optics   **3.5 S.H.**
Fiber optics is one of the major building blocks in the telecommunications infrastructure. Its high bandwidth capabilities and low attenuation characteristics make it ideal for high-speed data transmission. Systems in operation today operate with data rates in the gigabit per second range. Tomorrow's systems promise data rates as high as a terabit per second and beyond! This course provides the student with a solid theoretical and hands-on background in fiber optic communications. Topics will include a basic overview of light and optics, total internal reflection, basic waveguide propagation, singlemode, multimode, graded index and dispersion-shifted fiber, fiber optic loss mechanisms, splicing and termination, loss testing OTDR usage, lasers and LED's, photodetectors, wavelength division multiplexing, power and rise-time budgets, system design and evaluation, DWMD, EDFA's internal and external modulation, and optical network design. Classroom lecture will be supplemented by hands-on laboratory. Two hours of lecture and three hours of laboratory. Prerequisite: TEC* 114.

TEC* 224 Telecommunications Wireless Communications   **3.5 S.H.**
This course on wireless systems and networks will present material germane to the rapidly emerging wireless technologies by developing a model of what a typical wireless system network consists of. After the basis system elements are discussed, fundamental concepts of modulation, signals, spectra, bandwidth, filters, and multiplexing are reviewed. Then, noise effects and standard measurements are introduced. With fundamental concepts covered, course emphasis shifts to present day wireless system hardware. Topics covered include: wireless subsystems, analog and digital modulation techniques, First through Third Generation cellular radio electromagnetic propagation theory, modern antenna and transmission line theory, microwave and millimeter wave devices and systems, broadband wireless systems and networks, and RF/wireless test and measurement theory and practice. Two hours of lecture and three hours of laboratory. Prerequisite: TEC* 207.

TEC* 290 Telecommunications Internship   **3 S.H.**
The internship gives students the opportunity to apply technical knowledge learned in the classroom to the telecommunications workplace. A telecommunications faculty member monitors the student internship experience and, with the workplace supervisor, jointly evaluates the student's performance.

THEATER

THR* 110 Acting I   **3 S.H.**
Introduces the art, practice, theories, and history of acting. Both experienced and non-actors will benefit from this course through the study of the history of acting, practical workshops, in-class performances as well as reading, research, and writing about the discipline of acting.

WATER MANAGEMENT / WASTEWATER

WMT* 101 Water Treatment and Distribution (WMT 101)   **6 S.H.**
Covers water sources and uses, storage, pipes, pumps, motors, water quality parameters and standards, and treatment techniques, including iron and manganese removal, pretreatment, coagulation/flocculation, sedimentation, filtration, fluoridation, corrosion control, disinfection, sludge handling, and plant maintenance. Presents the mathematics necessary for operators of water treatment and distribution plants.

WMT* 102 Special Topics in Water Treatment (WMT 102)   **3 S.H.**
Covers required and recommended drinking water standards; proper sample collection; preservation and storage techniques; proper physical, chemical, and microbiological analytical techniques; and the relationship between analyses, unit process control, and the quality of treated water in the distribution system.

WMT* 103 Special Topics in Water Distribution (WMT 103)   **3 S.H.**
Covers applied hydraulics; water tanks; mains; valves; services; hydrants and meters; cross connections; pumps; instrumentation; maps and drawings; and local, state, and national laws. Devotes special attention to operational and maintenance procedures designed to protect the quality of water in the system.

WMT* 105 Water Utility Management (WMT 105)   **3 S.H.**
Introduces areas of Water Utility Management, including organization, planning, regulations, finances, operations, infrastructure maintenance, safety, and public relations. Considers contemporary technological developments, management problems, and challenges that public water utilities must cope with.

WWT* 110 Wastewater I (WMT 110)   **3 S.H.**
Introduces the safe and effective operation and maintenance of wastewater treatment plants. Presents basic operational aspects, including grit removal, sedimentation and flotation trickling filters, biological contractors, activated sludge, waste treatment ponds, and disinfection and chlorination. Upon completion, students will be prepared to take the State of Connecticut Wastewater Class I Operator Examination. Corequisites: MAT* 175 and WMT* 112.

WWT* 112 Wastewater II (WMT 112)   **3 S.H.**
Applies the theoretical principles of wastewater treatment to specific examples of wastewater treatment practice. Students will visit municipal wastewater treatment facilities and prepare a comprehensive study of a wastewater treatment plant. Corequisites: MAT* 175 and WWT* 110.

WWT* 114 Wastewater III (WMT 114)   **3 S.H.**
Further investigates the safe and effective operation and maintenance of wastewater treatment facilities, emphasizing large, conventional treatment plants. Topics include activated sludge, sludge digestion and handling, effluent disposal, plant maintenance, safety and housekeeping, and laboratory procedures. Uses computers in the laboratory for data acquisition and analysis. Upon completion, students will be prepared to take the State of Connecticut Wastewater Class II Operator Examination. Corequisite: WWT* 116.

WWT* 116 Wastewater IV (WMT 116)   **3 S.H.**
Students participate in an internship at an operating wastewater treatment facility. A comprehensive report of the project is required for successful completion of the course. Prerequisites: MAT* 175, WWT* 110, and WWT* 112. Corequisites: MAT* 175 and WWT* 110.

WWT* 120 Municipal & Industrial Wastewater (TOX* 234)   **3 S.H.**
Provides students with an overview of the terminology, methods, modes of operation and equipment used to protect our waters by providing treatment for municipal and industrial waste waters. Prerequisite: permission of instructor.

WWT* 210 Advanced Wastewater I (WMT 210)   **3 S.H.**
Addresses advanced wastewater topics, including odor control using chemical and biological treatments, scrubbers, and activated carbon absorption. Investigates both the treatment of activated sludge in municipal and industrial waste and the processes used for the management of residual solids. Addresses the use of chemicals and filtration systems in the removal of solids from effluents. Prerequisites: WWT* 110, WWT* 112, WWT* 114, and WWT* 116, or state of Connecticut Wastewater Certification Levels I and II.

WWT* 212 Advanced Wastewater II (WMT 212)   **3 S.H.**
Builds on the knowledge gained in Advanced Wastewater I. Covers phosphorus removal using biological systems, lime precipitation, and alum flocculation. Investigates the use of biological systems, ammonia stripping, chlorination, and water hyacinth cultures for nitrogen removal. Additional topics include enhanced biological-nutrient control, wastewater reclamation, and wastewater instrumentation. Prerequisite: WWT* 210.

WWT* 216 Environmental Law (WMT 216)   **3 S.H.**
Investigates federal, state, and municipal environmental regulations of wastewater management. Presents actual case studies for analysis. Prerequisites: WWT* 110, WWT* 112, WWT* 114, and WWT* 116, or state of Connecticut Wastewater Certification Levels I and II.

DIRECTORY

ADMINISTRATION AND COLLEGE SERVICES

Academic Advising	285-2124
Admissions - Applications	285-2010
Athletic Office	285-2213
Alumni Association	285-2186
Bookstore	865-5614
Business and Industry Services	285-2310
Business Office	285-2009
Cafeteria	285-2248
Career Services/Job Placement	285-2110
Center for Educational Services	285-2217
CT College of Technology	285-2452
Counseling & Student Success Center	285-2090
Dean of Academic Affairs	285-2070
Dean of Administrative Affairs	285-2021
Dean of Development & Community Partnerships	285-2296
Dean of Workforce Development & Continuing Education	285-2408
Dean of Student Affairs	285-2210
Early Learning Center (Child Care)	285-2131
Educational Technologies	285-2268
Evening Administrator	285-2082
Facilities and Events Management	285-2223
Financial Aid	285-2030
Foreign Student Information	285-2010
Gateway Community College Foundation, Inc.	285-2617
General Information	285-2000
Human Resources	285-2537
Immunization	285-2275
Information Technology	285-2040
Institutional Advancement	285-2296
Institutional Research	285-2415
Instructional Design	285-2108
Library & Learning Commons	285-2057
Mail Room	285-2239
Online/Distance Learning	285-2295
Payment of College Charges	285-2009
President	285-2061
Public Affairs and Marketing	285-2065
Purchasing	285-2524
Registrar	285-2020

Security	285-2246
Student Development and Services Associate	285-2033
Student Activities and Leadership	285-2209
Student Development	285-2318
Student Disability Services	285-2314
Student Government	285-2242
Transcripts	285-2020
Tutoring	285-2217
Veterans Affairs	285-2110
Voice Mail System	285-2200
Weather Information	285-2049
Website	GatewayCT.edu
Women's Center	285-2151
Workforce Development & Continuing Education	285-2300
Writing Center	285-2245

ACADEMIC DEPARTMENTS CHAIRS AND DIRECTORS

Allied Health / Nursing	Sheila Solernou	285-2393
Arts / Humanities	Chester Schnepf	285-2205
Business	Richard Rees	285-2178
College Advancement Studies	Russell Gaudio	285-2203
Engineering Technologies	Paul Silberquit	285-2368
Mathematics / Science	Robert Tremblay	RTremblay@gatewayct.edu
Social Science	Susan Logston	285-2187

PROGRAM COORDINATORS/CONTACTS

Art	Nicholas Halko	285-2241
Automotive (General Motors ASEP)	Daniel Fuller	285-2370
Aviation Maintenance	Paul Silberquit	285-2368
Biomedical Engineering	Thomas McGrath	285-2378
Business	Richard Rees	285-2178
Business Office Technology	Lucille Flores	285-2177
Clean Water Management	Paul Silberquit	285-2368
Computer Engineering	Paul Silberquit	285-2368
Computer Science	Allyson Kinney	285-2176
CT College of Technology	Susan Spencer	285-2452
Culinary Arts	Daniel Palmquist	285-2193
Diagnostic Medical Sonography	Vacant	
Dietetic Technology	Marcia Doran	285-2390
Drug and Alcohol Recovery Counselor	Cher Shannon	285-2321
Early Childhood Education	Carmelita Valencia-Daye	285-2172
Early Childhood Special Education	Earnestine Kirkland	285-2189
Electrical Engineering	Eric Flynn	285-2371
English	Franz Douskey	285-2206
Entrepreneurial Studies	Rose Bednarz-Luglio	285-2198
Environmental Science & Toxicology	Robert Tremblay or John Mullane	285-2185 or 285-2095
Food Service Management	Daniel Palmquist	285-2193
General Studies	Jonah Cohen	285-2289
Hotel-Motel Management	Stephen Fries	285-2175
Hospitality Management	Stephen Fries	285-2175
Human Services	Cher Shannon	285-2321
Liberal Arts & Sciences	Lauren Doninger	285-2601
Manufacturing Engineering	Tsu-Chien Cheu	285-2374
Mathematics	Saverio Perugini	285-2195
Mechanical Engineering	Cyprian Ukah	285-2375
Nuclear Medicine	Beata Gebuza	285-2381
Nursing	Sheila Solernou	285-2393
Online/Distance Learning	Kathleen Murphy	285-2295
Radiation Therapy	Gina Finn	285-2392
Radiography	Julie Austin	285-2382
Railroad Engineering Technology	Paul Silberquit	285-2368
Retail Management/Fashion Merchandising	Rose Bednarz-Luglio	285-2198
Science	Robert Tremblay	285-2185
Solar Technology	Paul Silberquit	285-2368
Water Management	Paul Silberquit	285-2368

PERSONNEL

Faculty – Full-Time

Norman Abell (1988) Professor-Biology. B.S., Villanova University; D.P.M., Ohio College of Podiatric Medicine

Julie Austin (2000) R.T. (R) (M) Professor and Program Coordinator, Radiography. A.S., Gateway Community-Technical College; B.S., Albertus Magnus College; M.A. Albertus Magnus College.

Vincent Baldassano (2004) Associate Professor–Art. B.A. Wagner College; M.F.A. University of Oregon

Claudia Bedoya-Rose (2000) Associate Professor–English as a Second Language and Spanish, A.S., Albertus Magnus College; B.S., Albertus Magnus College; Ed.M., Harvard Graduate School of Education

Tracy Blanford (2004) Professor–Nursing. A.S. Quinnipiac College; B.S.N. Central Connecticut State University; M.S.N. University of Connecticut

Alex Boateng (2004) Associate Professor–English. B.A. University of Ghana; M.A. Yale University

Michelle Breaker (2010) (2010) Assistant Professor-College Advancement Studies Department (CAS)-Developmental Math. B.S., M.S., Purdue University

James Wesley Brogan (1993) Professor-English. B.A., University of Iowa; M.A., Ph.D., Indiana University

Mark S. Bruno (1994) Professor-General Science. B.S., Southern Connecticut State University; M.S., University of Connecticut

James Brunt (2010) Assistant Professor-College Advancement Studies Department (CAS)-Developmental English. B.A., M.A., Southern Connecticut State University

Carol Brutza (1988) Professor-Peace & Conflict Studies, English as a Second Language. B.A., University of Arizona; M.A., New York University; Certificate, Peace Education, Columbia University

Mary M. Burns (1974) Professor-English. A.A., South Central Community College; B.A., University of Connecticut; M.A.T., Brown University; Certificate, E.S.L., University College, Dublin, Ireland

John Callaghan (2006) Assistant Professor-Mathematics. B.S., Trinity College; M.A. Central Connecticut State University

Veronica Cardinale (2010) Assistant Professor-Clinical Coordinator Radiation Therapy Technology. A.S. South Central Community College.

Susan Chenard (2006) Associate Professor-English; Program Coordinator ESL Program. B.A. Central Connecticut State University; M.A. Mills College

Tsu-Chien Cheu (1993) Associate Professor-Program Coordinator, Manufacturing Engineering Technology. B.S. National Taiwan University; M.S. University of Wyoming; Ph.D. University of Texas-Austin

Jonah Cohen (2004) Associate Professor-Human Services, Program Coordinator General Studies. B.A., Trinity College; M.S., Central Connecticut State University

Suzanne Conlon (2006) Associate Professor-Nursing. B.S.N. University of Bridgeport; M.S.N. Sacred Heart University

Robert Costanzo (1994) Professor-Automotive Technology. B.S., Central Connecticut State University

Carmelita Valencia-Daye (2004) Professor and Program Coordinator, Early Childhood Education. B.S. University of Philippines; M.Ed. University of North Carolina, Chapel Hill

Susan DeBarge (2008) Associate Professor-Nursing. B.S., Nursing, UMASS, Boston; M.S. Nursing-Midwifery, Yale University

Todd Degree (2007) Associate Professor, Program Coordinator-Exercise Science & Wellness. B.S. Sports Management, UMASS Amherst; MBA Georgia State University

Megan DeLivron (2010) Assistant Professor-Chemistry. B.S., Biochemistry, University of New England, Ph.D., Biochemistry, University of Connecticut

Teresa Russo DeMars (1992) Associate Professor-Psychology. B.A., University of Connecticut; M.S., Southern Connecticut State University; Licensed Professional Counselor (L.P.C.)

Wayne Demske (1999) Professor and Program Coordinator-Automotive Technology. A.S., Mattatuck Community College; B.S., Western Connecticut State College

Lauren Doninger (2001), LADC, LPC, Program Coordinator–Liberal Arts & Science and Professor of Psychology. B.S., Nasson College; M.A., Central Connecticut State University, Ed.D. Johnson & Wales University

Marcia Swan Doran (1998) M.S., R.D.N, Professor-Program Director, Nutrition/Dietetic Technology. B.S., University of Connecticut; M.S., University of Bridgeport

Franz T. Douskey (1977) Professor and Coordinator-English. B.A., M.A., Goddard College

Thomas M. Fahy (2004) Professor–Psychology. B.A. Tufts University; M.A. Tufts University, University of Hartford; Psy.D. University of Hartford

Gina Finn (1999) R.T. (T) Professor, Program Coordinator, Radiation Therapy, A.S., Gateway Community College, B.S. Central Michigan University, M.A. Albertus Magnus College

Lucille Flores (2004) Professor and Program Coordinator–Business Office Technology. B.B.A. Baruch College of the City University of New York; M.S. University of Hartford

Eric Flynn (2010) Instructor-Electrical Engineering Technology. A.S., Gateway Community College, B.S., M.S., University of Connecticut, Ph.D., Electrical Engineering, University of Connecticut

Stephen Fries (1986) Professor-Marketing. Program Coordinator, Hospitality Management Program. B.S., State University of New York at Albany; M.S., University of Massachusetts-Amherst

Germaine C. Frosolone (2001) C.N.M.T., R.T.N., Professor and Clinical Coordinator – Nuclear Medicine Technology. B.A., Western Connecticut State University; A.S., South Central Community College

Daniel Fuller (2011) Assistant Professor Automotive, Program Coordinator, B.S. Excelsior College; A.A.S., Greater New Haven State Technical College

Renee A. Gaines (2008) Assistant Professor-English. B.A. Brooklyn College, EdM Suny Buffalo

Miguel Garcia (1978) Professor-Mathematics; B.S., University of Puerto Rico; M.Phil., Yale University

Russell Gaudio (1991) Professor and Department Chairperson-College Advancement Studies (CAS)-Developmental and College-level English. A.B., Fairfield University; M.A., New York University

Beata Gebuza (2008) Associate Professor, Program Coordinator, Nuclear Medicine Technology. A.S. Gateway Community College; B.S. Quinnipiac University; M.S. Southern CT State University

Claudia Haekel (2004) Professor–Nursing. B.S. Southern Connecticut State University; M.S. University of Connecticut

Nicholas F. Halko (1994) Professor and Program Coordinator-Art. A.S., B.A., Charter Oak College; B.A. Southern Connecticut State University; M.F.A., Hartford Art School/University of Hartford

Richard B. Halkyard, Jr. (1999) Professor-Computer Engineering Technology. A.S. Quinnipiac College; A.S. Greater New Haven State Technical College; B.S., Quinnipiac College; M.P.A., University of New Haven

Martha Hayes (1996) Professor-English. A.S., Housatonic Community College; B.A., M.A., Southern Connecticut State University

Marilyn Jacobi (1994) Professor-College Advancement Studies Department (CAS)-Developmental and College-level Mathematics. B.A., SUNY College at Oneonta; M.S., University of Bridgeport

Raj Jain (1988) Professor-Biology. B.S., Delhi University; M.S., Rajasthan University; Ph.D., Lucknow University (India)

Theresa J. Jeffries (1998) LCSW, Professor-Sociology. B.A., Quinnipiac College; M.S.W., Columbia University School of Social Work

Elizabeth H. Keefe (2012) Instructor-College Advancement Studies (CAS)-Developmental English. B.A., College of the Holy Cross; M.A., Fairfield University; M.S./TESOL Certification, Southern Connecticut State University

Karen L. Kessler (2002) Professor–Nursing. A.A.S., Kingsborough Community College; B.S.N., Hunter College; M.S., University of Wisconsin–Madison

Allyson V. Kinney (1986) Professor and Program Coordinator, Computer Science Technology. B.A., University of Connecticut; M.C.I.S., University of New Haven

Earnestine B. Kirkland (1972) Professor and Program Coordinator-Early Childhood Education, Special Education, B.S., Morris College; M.S., University of Illinois; Sixth Year Professional Degrees in Administration and Reading; Southern Connecticut State University; Ed.D., Nova University

Kerin R. Lee (1970) Professor-English. B.S., M.S., M.A., Southern Connecticut State University; Ph.D., The Union Institute; Ph.D., University of Connecticut; Sixth-Year Professional Degree, University of Bridgeport

Susan Levine (2007) Associate Professor-Nursing. B.S.N., Central Connecticut State University; M.S.N.,University of Hartford

Lorraine Li (2004) Professor–Economics. B.A. Columbia University; M.S. Columbia University

Elaine Lickteig (2010) M.S., R.D.N. Assistant Professor-Clinical Coordinator, Dietetic Technology. B.A. Michigan State University; M.S. University of Connecticut

Susan E. Logston (1972) Professor and Department Chairperson, Social Sciences. B.A., West Virginia University; M.A., University of Connecticut

Donald Lostritto, PE (1980) Professor and Program Coordinator-Electrical Engineering Technology. B.S.E.E., University of New Haven; M.S.E.E., University of Connecticut

Michael Loteczka (1984) Professor-Chemistry/Math/Physics. B.S., M.S., University of Connecticut

Rose Bednarz Luglio (1992) Professor-Business and Program Coordinator-Entrepreneurial Studies, Retail Management/Fashion Merchandising. B.S., M.A., University of Connecticut; M.B.A., C.A.G.S., University of Bridgeport

Mark D. Lynch (1998) Professor-Chemistry. B.S., Boston College; M.S., Southeastern Massachusetts University; Ph.D., Iowa State University

Julie Perego Mangini (1989) A.R.R.T. (R). Professor-Radiography, Yale School of Radiology, B.S., New Hampshire College; M.Ed., Cambridge College

Enrico Mastronardi (2008) Assistant Professor-College Advancement Studies Department (CAS)-Developmental English. B.A., Boston College; M.A., Fairfield University

Joseph Maynard (2000) Assistant Professor-History. A.S. South Central Community College; B.A., Southern Connecticut State University; M.A. Trinity College

Barbara McFarland (2006) Associate Professor-Nursing. B.S. Florida International University; M.S.N., University of Hartford

Scott McFarland (2008) Associate Professor, Program Coordinator, Automotive Technology. B.A. University of Massachusetts

Thomas McGrath (1981) Professor and Program Coordinator-Biomedical Engineering Technology. A.S., Waterbury State Technical College; B.S.E.E., University of New Haven; M.S. Biol.E., University of Connecticut

Cathy G. Mebane (2000) Professor–Early Childhood Education. B.S., M.S., Southern Connecticut State University

Victor C. Medina (1998) Professor-Sociology. B.S., Charter Oak State College; M.S., Southern Connecticut State University

Mohsin Mehtar (1984) Professor-Biomedical Engineering Technology. B.S.E.E., University of Miami; M.S.B.M.E., University of Vermont

Eric Meyers (2007) Instructor-Math/Science; Biology 105,121,122 contact faculty B.A., University of Steubenville; D.C. University of Bridgeport

Joan Morrison (2012) Assistant Professor Nursing. M.S., University of Massachusetts; B.S. Clark University; A.D.N. MT. Wachusett Community College

Victoria Morse (2004) Associate Professor–Foreign Languages. B.A. Vassar College; M.A. Middlebury Graduate School of French

Kathleen H. Murphy (1996) A.R.R.T. (N), C.N.M.T., Professor and Coordinator of Distance Learning. A.S. South Central Community College; B.S., M.S., University of New Haven

Linda Nevins (2009) Associate Professor, Nursing. B.S. and M.S.N. University of Connecticut

Lynette Palm (2012) Assistant Professor Nursing. M.S.N., B.S.N., Rand Afrikaans University

Lee Panagoulias (1979) Professor-Electrical Engineering Technology. B.S.E.E., University of New Haven; M.S., 6th Year Certificate, Southern Connecticut State University; Teaching Certificate (Math/Science) Central Connecticut State University

Saverio Perugini (1993) Professor and Academic Coordinator-Mathematics. B.S., M.S., Central Connecticut State University, Ed.D. Teachers College, Columbia University

Louise A. Petroka (1994) Professor-Math/Science; A & P Contact Faculty. B.S., Central Connecticut State University; M.A., Central Connecticut State University

Marcia Piwarzyk (1989) Professor-Art. B.S., University of Connecticut; M.S., Central Connecticut State University

Janice B. Potochney (1981) Professor-Accounting. B.S., University of Connecticut; M.B.A., University of Bridgeport; C.M.A.

Deborah Raimondo (1998) Associate Professor – ESL, A.B., Gordon College; M.A., Central Connecticut State University; M. Div., Eastern Baptist Theological Seminary

Andrew V. Randi (1997) Professor-Culinary Arts. A.S., Johnson & Wales College; B.S., University of New Haven; M.S., University of New Haven

Myra Reddish (2008) Assistant Professor- Nursing. BSN Southern CT State University, MSN University of Hartford

Richard Rees (2002) Professor and Chairperson-Business. A.S. Middlesex Community College; B.S. Central CT State University; M.B.A, University of New Haven; M.C.S.E., Microsoft

Anthony Rish (2004) Assistant Professor–Automotive. A.A.S. Gateway Community College; B.S. Central Connecticut State University

Doree Robinson (1983) Professor-English and Coordinator of the College Writing Center, B.A., Russell Sage College; M.A. Northeastern University; TESOL Certificate, Graduate Institute, School for International Training

Lynn Roller (2008) Associate Professor-Diagnostic Medical Sonography. St. Vincent's Medical Center, Certificate, Ultrasonography, Radiologic Technology

Wilfredo Rosado (2010) Assistant Professor-Computer Science. MSCIT Sacred Heart University

Eileen Russo (2010) Assistant Professor-DARC. M.A. St. Joseph College

Heidi Rydene (1993) Professor-Biology. B.S., University of Rhode Island; M.S., Southern Connecticut State University

Kimberly Sandor (2012) Assistant Professor Nursing. M.S.N., Columbia University, B.S.N., Boston College

Rachel Schettenhelm (2004) Professor-College Advancement Studies Department (CAS)-Developmental and College-level Mathematics. B.S., Michigan State University, M.S., The University of Toledo

Chester H. Schnepf (1984) Professor and Chairperson-Humanities. B.F.A., New York Institute of Technology; M.A., Hofstra University, C.A.G.S., Trinity College

John H. Scott III (1998) Professor-Business. A.A., Suffolk County Community College; B.A., SUNY at Stony Brook; M.Div., Harvard University School of Divinity; J.D., Hofstra University School of Law

Cheryl Shannon (2007) Professor-Program Coordinator-Drug and Alcohol Recovery Counselor and Human Services, LADC, SAP, BS, MHSA New Hampshire College Antioch New England

Tinkang Shen (2006) Professor-Mathematics. B.S. Shanghai University; M.S., M.A., Ball State University

Susan Spencer (2010) Assistant Professor-Mathematics; Program Coordinator, College of Technology. B.S., M.S. Southern Connecticut State University

Daniel Sullivan (1992) Professor-Biology; Microbiology contact faculty. B.S., Ramapo College; M.S., Rutgers University, M.P.H., University of Connecticut; Ph.D., Walden University

Amanda Sweeney (2012) Instructor-College Advancement Studies Department (CAS)-Developmental Mathematics. B.S., University of Connecticut; M.S., University of Connecticut

Robert E. Tremblay (1987) Professor-Physical Sciences and Department Chairperson-Math/Science. B.S., M.S., 6th year degree, Southern Connecticut State University

Cyprian Ukah (1986) Professor. Program Coordinator-Mechanical Engineering Technology. B.S.M.E., Trinity College; M.S.M.E., University of New Haven

Sheri Valentin (2010) Assistant Professor-Business Office Technology. B.S. Sacred Heart University; M.S. University of New Haven

Jaye Viola (2007) R.T. (R) Associate Professor-Clinical Coordinator, Radiography. A.S. Gateway Community College; B.S. Albertus Magnus College

Donald Walker (2012) Assistant Professor, Program Coordinator Distance Learning. M.B.A., Southern Connecticut State University; B.S. New York University

Stacy Walker (2012) Instructor Computer Science. M.S., Colorado Technical University; M.S., B.S, Quinnipiac University; A.S., Gateway Community College

Anne Williams (2007) Professor-Business. B.A., University of Connecticut; M.B.A. Temple University; C.P.C.U., C.E.B.S.

Wesley Winterbottom, PE (1994) Professor-Science; B.S., Lehigh University; M.S., Cornell University; M.B.A., University of Connecticut

Virginia A. Woolums (1986) Professor-Reading. B.A., Beaver College; M.Ed., Temple University; M.S., Southern CT State University, English

Faculty – Part-Time

Lawrence Baldino, M.S., MBA Southern Connecticut State University and University of New Haven

Kathleen Bavelas, M.A.L.S, Wesleyan University

Patricia Bissell, M.Music 6th yr, Yale School of Music

Ronald Blevins, M.A., Fairfield University

Rosemary Boone, M.ME, University of Hartford

Lisa Breuninger-Tenny, Ph.D. Drexel University, PA Graduate Medical Science

Diane Calello, M.S. Quinnipiac University

Vincent Carrano, M.S. 6th yr; Southern Connecticut State University

Toni D. Cates, M.A., Wesleyan University, Fairfield University

Dino Ciaburri, B.S. Southern CT State University; M.A.L.S. Wesleyan University; Ed.D. Nova Southeastern; three Fellowships from Yale University; First Doctorate Hunter College, Yale University; UCONN.

Moshe Cohen, M.S., University of New Haven

Patricia Colandrea, MBA, Housatonic Community College, Fairfield University, University of New Haven

Victor Collazo, M.D.; University of Puerto Rico

Daniel Corr, M.M., Cornish College, Yale University

Daniel J. Courcey, Jr. A.B. Providence College; M.A. Southern Connecticut State University; C.A.G.S. Fairfield University

Jesse J. Davis, B.S. Central State College (Ohio); M.S. Central Connecticut State University

Amy Davison, M.A., Central Connecticut State University, University of Connecticut

Michelle DellaCamera, M.S. Certificate, Albertus Magnus College, Southern Connecticut State University

Corinne Fisher, M.B.A., C.P.C.

Susan Foss, M.S. 6th yr; Southern Connecticut State University

❖ **Facilities and Events Management**

Lucian Simone (2010) **-** Director. B.S., Mechanical Engineering, Roger Williams College; M.S. Environmental Science, University of New Haven

Carey Broderick (2012) Campus Police Officer

Brian Higney (2007**)** Security Supervisor. A.S. Gateway Community College

Brian McCarthy (2008) Building and Grounds Patrol Officer

Charlene Thomas (1988) Office Assistant. Diploma for Secretarial Science, Stone Business School

Sandra Garde (1999) Office Assistant

- *Maintenance*

Robert Lyons (2005) Building Maintenance Supervisor

Joseph Prince (1984) Building Superintendent I

Louis Diaz (1994) Skilled Maintainer

Anthony Benoit (1985) Lead Custodian

Maribel Lugo (2001) Lead Custodian

Edward Chavis (2007) Custodian

Charles Cole (2007) Custodian

Lucas Ortiz (2007) Custodian

Luis Soler (2007) Custodian

Clara Zuluaga (2007) Custodian, American Business School Columbia

Hedwig Molka (2008) Custodian, A.S. Goodwin College

Richard Catenza (2010) Qualified Craft Worker-Electrician. Diploma-New England Technical Institute

Brian Ferraro (2012) Qualified Craft Worker-HVAC-R.

Mark Signor (2010) Custodian

James D'Angelo (2012) Custodian

Madison Malcolm (2012) Custodian

Alfred Chow-Yen (2012) Custodian

Kevin Bodie (2012) Custodian

Soloman Goodman (2012) Custodian

Leroy Deberry (2012) Custodian

Mark Perez (2012) Custodian

James Senior (2012) Custodian

Denay Emery (2012) Custodian

Christine Crawford (2012) Custodian

Joel Medina (2012) Custodian

Alejandro Saravia (2012) Custodian

Lonnie Tally (2013) Supervising Custodian

❖ **Information Technology**

Lawrence Salay (2005) Director. B.S. Mercy College, M.B.A. University of Phoenix

John Desrosiers (1996) Assistant Director of Information Technology. A.S., Gateway Community College; B.S. American Intercontinental University

Brian Bouthillier (1998) Technician II. A.S., Housatonic Community College

William Miklos (1998) Network Manager. A.S., Gateway Community College, B.S. Charter Oak

Dean Ferro (2006) Technician II. B.S. Central Connecticut State University

Derek Fries (2009) Technician II. A.S., Tunxis Community College; B.S. MIS, Central Connecticut State University

❖ **Institutional Research**

Vincent Tong (2000) Director / Affirmative Action Officer. B.A. New York University, M.A. University of Michigan, Ph.D. Yale University

Administration

♦ **President's Office**

Dorsey L. Kendrick (1999) President. B.S., Union University; M.S., Cardinal Stritch University; Ph.D., Walden University

Carol Guerrera McHugh (1970) Executive Assistant to the President. A.S., Post Junior College

Christine Scillia-Rivera (2004) Secretary. A.S. Gateway Community College

❖ **Human Resources**

Lucille E. Brown (1999) Director. B.A., Jackson State University; J.D., Notre Dame University

Christie Higney (1997) Human Resources Associate. B.S., Quinnipiac College

Lisa Corbeil (2005) Secretary II. A.S. Middlesex Community College, Certification-Paralegal Litigation; B.S. Charter Oak State College

Mary-Lynn Labonty (2010) Payroll Officer. A.S., B.A., Post University

Patricia Martin (2010) Fiscal Administrative Assistant. A.S. Gateway Community College

Mark Magnotti (2012) Office Assistant

❖ **Dean of Development and Community Partnerships**

Mary Ellen Cody (2008) Dean. BA., George Washington University.

Susan K. Swirsky (1983) Administrative Assistant. Diploma for Executive Secretary, Academy for Business Careers; A.S., Gateway Community College

❖ **Marketing and Public Relations**

Evelyn Gard (2001) Director. B.A., Mount St. Mary's College; M.A.Ed, Loyola Marymount University

Allen Gales (1979) Public Relations Associate. A.S., South Central Community College; B.S. Charter Oak State College

Amie Fanning (2012) Coordinator of Publication Services. B.A., Southern Connecticut State University

Mari Walker (1983) Office Assistant. A.S., South Central Community College; B.A. Charter Oak State College

♦ **Administrative Services Division**

Dean of Administration

Louis S. D'Antonio (1981) Dean. B.A., M.A., Fairfield University

Brenda Haase (1998) Administrative Assistant

❖ **Business Office**

Jill McDowell (2002) Director of Finance and Administrative Services. B.S., University of Connecticut, M.B.A., University of Connecticut

Linda Li (2012) Accountant. M.S. University of Hartford; B.S., Xian University of Technology

Carol Mason (1993) Assistant Accountant

Carol Lewis (2005) Assistant Accountant. A.S. Norwalk Community College, B.S. Sacred Heart University, M.B.A. Sacred Heart University

• *Purchasing*

Lisa Cherhoniak (1985) Associate Fiscal Administrative Officer

Kelly Anne Levinson (1998) Fiscal Administrative Officer. A.S., Gateway Community College, B.S. University of New Haven

Michael Martone (1998) Office Assistant

Kim Diaz - Financial Clerk. B.S. Albertus Magnus

❖ **Facilities and Events Management**

Lucian Simone (2010) **-** Director. B.S., Mechanical Engineering, Roger Williams College; M.S. Environmental Science, University of New Haven

Carey Broderick (2012) Police Officer

Brian Higney (2007**)** Building and Grounds Supervising Patrol Officer. A.S. Gateway Community College

Brian McCarthy (2008) Building and Grounds Patrol Officer

Charlene Thomas (1988) Office Assistant. Diploma for Secretarial Science, Stone Business School

Sandra Garde (1999) Office Assistant

- *Maintenance*

Robert Lyons (2005) Building Maintenance Supervisor

Joseph Prince (1984) Building Superintendent I

Louis Diaz (1994) Skilled Maintainer

Anthony Benoit (1985) Lead Custodian

Maribel Lugo (2001) Lead Custodian

Edward Chavis (2007) Custodian

Charles Cole (2007) Custodian

Lucas Ortiz (2007) Custodian

Luis Soler (2007) Custodian

Clara Zuluaga (2007) Custodian, American Business School Columbia

Hedwig Molka (2008) Custodian, A.S. Goodwin College

Richard Catenza (2010) Qualified Craft Worker-Electrician. Diploma-New England Technical Institute

Brian Ferraro (2012) Qualified Craft Worker-HVAC-R.

Mark Signor (2010) Custodian

James D'Angelo (2012) Custodian

Madison Malcolm (2012) Custodian

Alfred Chow-Yen (2012) Custodian

Kevin Bodie (2012) Custodian

Soloman Goodman (2012) Custodian

Leroy Deberry (2012) Custodian

Mark Perez (2012) Custodian

James Senior (2012) Custodian

Denay Emery (2012) Custodian

Christine Crawford (2012) Custodian

Joel Medina (2012) Custodian

Alejandro Saravia (2012) Custodian

Lonnie Tally (2013) Supervising Custodian

❖ **Information Technology**

Lawrence Salay (2005) Director. B.S. Mercy College, M.B.A. University of Phoenix

John Desrosiers (1996) Assistant Director of Information Technology. A.S., Gateway Community College; B.S. American Intercontinental University

Brian Bouthillier (1998) Technician II. A.S., Housatonic Community College

William Miklos (1998) Network Manager. A.S., Gateway Community College, B.S. Charter Oak

Dean Ferro (2006) Technician II. B.S. Central Connecticut State University

Derek Fries (2009) Technician II. A.S., Tunxis Community College; B.S. MIS, Central Connecticut State University

❖ **Institutional Research**

Vincent Tong (2000) Director / Affirmative Action Officer. B.A. New York University, M.A. University of Michigan, Ph.D. Yale University

♦ **Academic Affairs Division**
Dean of Academic Affairs
Mark Kosinski (2006) Dean. B.A. Alliance College; M.A., Ph.D. Bowling Green University
Angela Richter (1998) Administrative Assistant. ARRT(T), A.S. Gateway Community-Technical College; B.S. University of Bridgeport, M.M. University of Phoenix
RoseAnn Spagone (1996) Secretary II
Virginia E. Blackmon (1980) Office Assistant. A.A., Southern New England Regional Bible School; Diploma for Secretarial Science, New Haven Academy of Business; Certificate, Essex County College; Certificate, Newark Manpower Training Skills Center
Shelly Frosolone (2004) Office Support-Academic Affairs Division: College Advancement Studies (CAS) and Social Science Departments. A.S., Gateway Community College
Wilhelmenia Parsons (2009) Office Assistant. A.S. Gateway Community College

❖ **Academic**

❖ **Center for Sustainable Future**
David N. Cooper (2003) Director. B.S., University of Connecticut; Ed.D., Rutgers University

- *Allied Health and Nursing*

  Sheila B. Solernou (2002) R.N., MSN, Director – Allied Health/Nursing. B.S.N., Mount St. Mary College; M.S.N., University of Hartford
  Mary Beth Banks (2004) Enrollment Services Assistant. B.A., Merrimack College, M.P.A., University of New Haven, M.S. University of New Haven
  Marianne Lippard (2010) Clerk-typist, P/T. B.A. Clemson University

  Alice M. Pandolfi (1999) Administrative Coordinator. B.A., The Catholic University of America; M.P.H., Southern Connecticut State University
  Barbara Rudolph* (2007) Nurse Advisor. B.S., M.S. New York University
  Linda Scott (2009) - Clerk typist

- *Early Childhood Education*
  Carol Annette* (1998) ECE Accreditation Facilitator, B.S., University of CT; M.S., Southern Connecticut State University

- *Engineering and Applied Technologies*
  Paul Silberquit (2007) Director. B.S. State University of New York, College at Cortland; M.S. Pace University
  James Aiken* (2011) GM Corporate Sponsored Program Specialist, B.S. University of Wisconsin
  Donna Bruno (1986) Office Assistant. Diploma for Executive Secretary, Stone School of Business; Certificate, Gateway Community College

- *Math/Science*
  Patricia S. Iovene (1997) CHES. Academic Associate. A.S., Gateway Community College; B.S., Quinnipiac University; M.P.H., Southern Connecticut State University

- *Early Learning Center*
  Marjorie Weiner (2004) Director. B.S. Wheelock College; M.A. Wesleyan University
  Marion Williams (1983) Child Development Teacher. A.S., South Central Community College; B.S., New Hampshire College
  Linda Alston (1998) Child Development Teacher. B.A., Connecticut College
  Stella Okparanta (1990) Child Development Teacher. A.S., South Central Community College; B.A., Albertus Magnus; M.A., University of New Haven
  Annmarie Amendola (2001) Child Development Assistant Teacher. A.S., Gateway Community College
  Mary Palermo (1998) Secretary II. B.G.S. University of Connecticut; A.S. Gateway Community College
  Marie Helene N'Guessan (2005) Child Development Assistant Teacher. A.S. Norwalk Community College
  Leasa Moon (2010) Child Development Assistant Teacher. A.S. South Central Community College

- *Instructional Design and Development*

  Wendy Samberg (1999) Director. B.A., SUNY, Empire State College; M.A., Columbia University

  Kristine DeForge (2006) Instructional Design Assistant. A.S. Gateway Community College, B.S. University of New Haven

- *Educational Technologies*

  Alfonzo Lewis (2001) Educational Technologies Specialist. B.A., University of Connecticut

- *Library & Learning Commons*

  Clara Ogbaa (2008) Director. B.A., MLS University of Texas; Ed.D. University of Bridgeport

  Michael J. Cifferelli (2003) Librarian. A.A., Gateway Community College, B.A.; Trinity College; M.L.S., Southern Connecticut State University

  Martha Lipowski (1993) Librarian. B.S., Southern Connecticut State University, M.L.S., Southern Connecticut State University

  Jianxin Yang (2006) Librarian. B.S. University of Heliongjiang, M.S. Texas Tech, M.L.S. Southern Connecticut State University

  William Maisfelht (2004) Library Associate. B.A. University of Massachusetts

  Shauna DeStefano (2004) Librarian. B.S., Southern Connecticut State University, M.L.S. Southern Connecticut State University

- ❖ ♦ **Student Services Division**

  Dean of Students

  Wilson Luna (1985) Dean. A.A., Norwalk Community College; B.A., Southern Connecticut State University; M.S., University of Bridgeport; Ed.D., Nova Southeastern University

  Amy DeFigueiredo (2006) Administrative Assistant. B.S. Southern Connecticut State University

- ❖ **Student Development/Services**

  Matthew Long (2010) Director. B.A. Willamette University, M.A. University of Maryland, Ed.D. Johnson & Wales

  Sandra Williams-Eskridge (2001) Student Development and Services Associate. B.A., Fort Valley State College; M.S., Fort Valley State College

- *Financial Aid*

  Raymond R. Zeek (1994) Director. B.A., Franklin & Marshall College, M.S. Southern Connecticut State University

  Nancy C. Robinson (1980) Financial Aid Assistant. A.S., South Central Community College

  Lavanda Bryant (2008) – Office Assistant. A.S., Gateway Community College

- *Student Activities/College Life*

  Roberta Prior (2004) Director. B.A. Central Connecticut State University; M.S. Western Illinois University

  Janet Klinck (2007) - Secretary II, B.S. Providence College

- *Student Disabilities Services*

  Ronald Chomicz (2012) Learning Disabilities Specialist. Sixth Year, M.A., Southern CT ST University; B.A., Central CT ST University

  Samantha Kusiak (2012) Learning Disabilities Specialist. M.S. Southern CT ST University; B.A., Eastern CT ST University; A.A., Northwestern Community College

- ❖ **Admissions**

  Kim M. Shea (1994) Director of Enrollment Management. B.S.W., M.S.W., Southern Connecticut State University

  Elizabeth Vega (2003) Associate Director of Admissions. A.S., Gateway Community College; B.S.W., Southern Connecticut State University

  Pamela DeDona (1994) Processing Technician

  Sansanee Bijananda (2000) Office Assistant. Certificate, Gateway Community College

  Monica Garcia (2006) Office Assistant. A.S. Gateway Community College

  Lisa Barletta (2008) Clerk Typist

❖ **Advisement Center**
   Catherine E. Surface (1993) Director of College Transition. B.A., M.S., 6th-year Certificate, Southern CT State University

❖ **Career Services**

   Kellie Byrd Danso (2004) Director of Career Services, B.A. University of Connecticut; M.Ed. North Carolina State University. NCC- National Certified Counselor

❖ **Center for Educational Services**
   Clara Mena (2005) Assistant Director, Academic Support Center. A.S. Gateway Community College, B.A. Charter Oak State College, M.S. Southern Connecticut State University

❖ **Counseling**
   Michael Buccilli (2010) Director of Counseling and Student Services. B.S. University of Vermont, M.S.W Southern CT State University
   Maria Torres-Nosel (1993) Counselor. L.P.C., B.S., M.S., 6th Year Certificate, University of Bridgeport, Assumption College
   John Mullane (2008) Counselor. B.A. University of New Hampshire; M.S. Central CT State University
   Ivette Garcia (1999) Secretary I

❖ **Records**
   Maribel Lopez (2005) Registrar. B.S., Southern Connecticut State University
   Susan Moscato (1999) Registration Services Assistant. A.S., Gateway Community College; B.S. Charter Oak State College
   Lee Barden (1992) Processing Technician. Certificate, Water Management, Gateway Community College
   Elides Montalvo (2004) Clerk
   Janet Parker (2008) Clerk. B.A. Columbia University

Workforce Development & Continuing Education
   Victoria L. Bozzuto (1994) A.R.R.T. (T). Dean. A.S., South Central Community College; B.S., Southern Connecticut State University; M.Ed., Cambridge College
   Wanda Edwards (1999) Secretary II. CPI Certificate Data Entry, Bridgeport (pt-am), A.S. Gateway Community College

- *Business and Industry Services*
   John A. Vincze (1993) Director. B.S., University of Bridgeport; M.B.A., University of New Haven

- *Continuing Education/Community Services*
   Michelle Fraser (1998) Continuing Education Coordinator / Evening Administrator. A.S., Gateway Community College; B.S., University of New Haven; M.S.M., Albertus Magnus College
   China Byrd (2000) Clerk-Typist (p/t). A.S., Housatonic Community College

- *Workforce Development*
   Erika Lynch (2012) Coordinator, Continuing Education. B.S. Quinnipiac University

- *Step Forward*
   Jaime French* (2004) Director, Step Forward. B.A. SUNY, Albany; M.A. University of Utah

* Denotes Full-Time Educational Assistant

Emeriti

Thomas M. Adams (1983-2011) Professor Emeritus-Computer Engineering Technology

Frank D. Archangelo (1981-2003) Associate Professor Emeritus-Chemistry/Math/Physics

John Argento (1983-2009) Professor Emeritus--Chemistry, Math and Physics

Margaret Bauer (1978-2009) Dean Emerita--Research and Development

Mary P. Birdsey (1978-2003) Professor Emerita-Business Office Technology

William F. Celotto, PE (1979-1999) Professor of Mechanical Engineering Technology Emeritus

Michele N. Cone (1981-2007) Director of Library Emerita

Arthur Corda (1976-2009) Director Emeritus--Facilities and Events

Daniel J. Courcey, Jr. (1969-2011) Professor Emeritus-Social Sciences

Francis E. Crowley (1986) Professor Emeritus-English

Jesse Davis (1971-2011) Professor Emeritus-Psychology

William J. Dean (1977-2003) Professor Emeritus-Social Science

Diana P. Duarte (1972-2003) Professor Emerita-Business Office Technology

Bion H. Francis (1980-2003) Professor Emeritus-Business

Roy Francis (1979-2005) Director of Engineering and Applied Technologies Emeritus

Frank Gallagher (1985 - 2009) Professor Emeritus--Comptuer Science

G. J. Gerard (1982 - 2009) Professor Emeritus--Electrical Engineering Technology

Martha M. Hirsch (1986-1997) Associate Professor of Gerontology Emerita

Joyce Donen Hirschhorn (1969-1991) Professor of Human Communication Emerita

L.C. Hopes (1972-1992) Professor of Sociology Emeritus

Marsha Janik (1990 - 2009) Professor Emerita--Business Office Technology

Edith G. Jaquiery (1980-1992) Dean of Academic Affairs Emerita

W. Richard Krall (1971-2003) Professor Emeritus-Psychology

Susan Moore Lincoln, (1969-1997) Dean of Students Emerita.

Dominic Longo (1979-1992) Associate Dean of Instruction Emeritus

Joseph E. Magyar (1968-1997) Associate Dean of Community Services Emeritus

Ann B. Manner (1977-1992) Professor of Chemistry/Math/Physics Emerita

Stuart J. McEnerney (1970-1989) Professor of Mathematics Emeritus

Tina McHugh (1978-2011) Director Emeritus--Counseling

Donald Mei (1972-2009) Professor Emeritus--Accounting and Political Science

Robert A. Miles (1972-2009) Director Emeritus--Career Services

Richard S. Muir, PE (1982-2003) Assistant Professor Emeritus-Electrical Engineering Technology

Karl S. Paecht (1977-1992) Associate Professor of Manufacturing Engineering Technology Emeritus

Bonnie A. Pease (1979-2003) Librarian Emerita

Cheryl A. Pegues (1986-2009) Director Emerita--Student Development/Services

Albert Pesticci (1981-2009) Professor Emeritus--Math and Science

David Pettigrew (1990-2011) Professor Emeritus-Automotive Technology

Ann G. Robinson (1972-1999) Professor of Psychology Emerita

Kenneth R. Robinson (1970-1988) Professor of Sociology Emeritus

Ahmed M. Roblé (1968-2003) Professor Emeritus-Business

Irving Rosenthal (1971-1990) Professor of Sociology and Anthropology Emeritus

John Scippa (1972-2011) Professor Emeritus--Media, Film and Human Communication

Edmund L. Sobolewski (1977-1987) Dean of Students Emeritus

David M. Swirsky (1982-2011) Registrar Emeritus

William E. Thumbeck (1970-2003) Professor Emeritus-Mathematics

Ex-Officio Directors

Mark Lynch, Faculty Representative
Student Representative

ADVISORY COMMITTEES

These committees assist the program faculty in maintaining quality programs, relevant courses, and appropriate experiences that reflect the needs of area businesses and service industries, as well as local, state, and federal agencies.

- **AUTOMOTIVE TECHNOLOGY**
  James B. Aiken, Sr., General Motors (Retired)
  Joe Cetta, Dave McDermott Chevrolet
  Ken Feegel, Jackson Chevrolet
  Al Manning, Loehmann-Blasius Chevrolet
  John McCormack, Tremonte Auto Group
  William O'Bier, Lee Partyka Chevrolet
  Ken Pfeiffer, Valenti Chevrolet
  Richard Richlavsky, West Chevrolet
  Nick Saccomanno, Zee Auto Group
  Dan Schnaufer, D'Addario Buick-GMC-Cadillac

- **BIOMEDICAL ENGINEERING TECHNOLOGY**
  Raymond Acosta, Chief Biomedical Engineering Technician, Yale-New Haven Hospital
  Athan Chekas, Director, Clinical Engineering / Communications, New Britain General Hospital
  John Chiarella, Colonel, U.S. Army (Ret.)
  Vincent Cianci, Biomedical Engineering Technician**,** Hospital of Saint Raphael (GNHSTC 1984)
  Michael Clemons, Chief Biomedical Engineer, The Westerly Hospital
  Tony D'Adamo, Manager, Clinical Engineering Department, St. Vincent's Medical Center (GNHSTC 1986)
  Thomas Koshis, X-Ray Engineer, GE Healthcare
  Robert Meneguzzo, Manager, Field Service, Philips Medical Systems
  Patrick Nelligan, CBET, CRES, Director, Biomedical Engineering, Bristol Hospital
  Nicholas Noyes, CCE, Director, Clinical Engineering, University of Connecticut Health Center
  David Roden, Installation Team Leader, Philips Medical Systems (GNHSTC 1985)

- **BUSINESS/BUSINESS OFFICE TECHNOLOGY/RETAIL/ENTREPRENEURSHIP/HOSPITALITY**
  Margaret Antonelli, A.S., South Central Community College, Veterans Affairs Medical Center
  Marlon Bennett, The Lighting Quotent
  Dennis Brown, Business Consultant, Connecticut Community Investment Corporation
  Diane Calello, Yale New Haven Hospital
  Pat Daniel, New Haven Chamber of Commerce
  Beth DuPont, Director of Human Resources, CT Hospital Association
  C.E. Vlisedes Ph.D., University of New Haven
  Corinne Fisher, Yale University School of Medicine
  Michelle Fraser, Evening Administrator, Gateway Community College
  Scott Healy, Town Green Special Services District,
  Scott Hibson, Director of Sales, New Haven Hotel
  Carlton Highsmith, President and CEO, Specialized Packaging Group, Inc.
  Letamarie Highsmith, Vice President, Specialized Packaging Group, Inc.
  Julie Brander-Klein, Chairman, SCORE
  Susan McLean, A.S., South Central Community College, United Illuminating
  Debbie Mele, Sales Manager, Omni New Haven Hotel at Yale
  Lynn Peterson, Marketing Director, Westfield Connecticut Post
  Matthew Potochney, The Lighting Quotent
  Roy Snider, Store Manager, Stew Leonard's
  Heather Solomon, Owner, Solo Statement
  Janet Testa, Vice President – Operations, Greater New Haven Chamber of Commerce
  Wesley Thorpe, Executive Director, Emergency Shelter Management Service
  Linda Trudeau, Board of Education, Guilford, CT
  Robin Vuillermet, Co-owner, Union League Cafe
  Berdest Wrisbon, A.S. Gateway Community College, ACES, Program Development

- **COLLEGE OF TECHNOLOGY SITE COORDINATORS AND ADVISORY COMMITTEE**
  Joseph Behar, Housatonic Community College
  Karen Wosczyna-Birch, COT System Director
  Susan Burt, Norwalk Community College
  Donald Cronan, Asnuntuck Community College
  Paul Danzer, Housatonic Community College
  Judy Donnelly, Three Rivers Community College
  David Emigh, Quinebaugh Valley Community College
  Robert Fortier, Manchester Community College
  Paul Susen, Acting Chief Academic Officer, Connecticut Community College System
  Bob Lantz, Three Rivers Community College
  Robert Loftus, Northwestern Community College
  Robert Mancino, Capital Community College
  Donald Naducci, Naugatuck Valley Community College
  Sagan Odesina, Assistant Dean, Central Connecticut State University, School of Technology
  Frank G. Samuels, Middlesex Community College
  Erling Murtha-Smith, University of Connecticut School of Engineering
  Susan Spencer, Gateway Community College
  Ann Taft, Charter Oak State College
  John Walters, Department of Higher Education
  Marcel Wood, Associate Dean, University of Connecticut, School of Engineering

- **COMPUTER ENGINEERING TECHNOLOGY**

  Dr. Hisham Alnajjar, Associate Dean, Electrical & Computer Engineering, University of Hartford

  Dr. Atluru, Chief Executive Officer, Diversified Technology Consultants

  Chris Bassett, Director of Information Technology, Town of North Haven

  Michael Buccilli, Director of Career Service, Gateway Community College

  Michael Doering, Director of Quality - Fire Systems, Honeywell Fire Systems

  Steven Dufour, Software Design Assurance Manager, Honeywell Fire Systems

  Richard Halkyard, Associate Professor, Gateway Community College

  Dr. Scott Hamilton, Professor and Chairman of Engineering, Quinnipiac University

  Dr. Ronald Harichandran, Dean of Tagliatela College of Engineering, University of New Haven

  Alex Linos, Franchise Owner, Nerds to Go

  Lee Panagoulias, Professor, Gateway Community College

  Larry Salay, Director of Information Technology, Gateway Community College

  Poulomi Sanyal

  Dr. Karen Tracey, Department Chair, Computer Electronics & Graphics Technology, CCSU

  David Yaccarino, State Representative, R-87

- **COMPUTER SCIENCE TECHNOLOGY**

  Robert Jasek, Information Security Officer, Yale University

  Mohammed Hanif, Senior Engineer, Northeast Utilities

  Carrie M. Horvath, Ph.D., Portal Support Specialist, Connecticut Community Colleges

  Robert Hubbard, Business Admin. & Management Department Chair, Albertus Magnus College

  David Pfrommer, Senior Software Engineer, CD Solutions, Inc.

  Stacy W. Walker, IT Coordinator, Yale Cancer Center

- **DRUG AND ALCOHOL RECOVERY COUNSELOR PROGRAM**

  Stuart Baker, APT Foundation

  Meryl Boyarsky, Director of Women's Services, Crossroads, Inc. DARC Alumnus

  Miguel Caldera, M.D., LADC, Crossroads, Inc.

  Rodney Denson, MSW, LADC Greater Bridgeport Mental Health, DARC Alumnus, Adjunct Faculty

  Karl Garrett, Regional Network of Programs

  Martin Jackson, Director, Hamden Children's Center

  Charles MacDonald, Director, Alternatives in the Community, DARC Alumnus

  Alexandra Molina, Director, Greater Bridgeport Mental Health

  Jeff Quamme, Vice President, Connecticut Certification Board

  Teresa Roehrich, MS, LADC, CCS, Apt Foundation, DARC Alumnus, Adjunct Faculty

  Eileen Russo, MA, LADC, DARC faculty

  Robin Woodward, CAC, Waterbury Hospital, West Main Behavioral Health, DARC Alumnus, DARC EA

- **ELECTRICAL ENGINEERING TECHNOLOGY**

  William Bacon, Vice President, Metrology Operations, Zygo Corporation

  Harold Hansen, Senior Engineer, Hamilton Sundstrand Space Systems International (UTC)

  Robert O'Connor, Technical Consultant

  Ron Robert, Staffing Manager, United Illuminating Co.

  Charles E. Ruotolo, Electrical Engineering Consultant, Ruotolo Electric

  Lisa Sampietro, Assistant Branch Manager, Randstad US

  Edmond Vinarub, Electronic/Electro-Optics Consultant

- **ENVIRONMENTAL SCIENCE AND TOXICOLOGy**
  R. Scott Allen, Enforcement Officer, Inland Wetland and Water Courses Commission
  Dr. Murali Atluru, Diversified Technology Consultants
  Patrick Bowe, Airt Management Bureau, CT Department of Environmental Protection
  Charlie Cappannari, Cytec Industries, Inc.
  Mary Chesley, Environmental Monitoring Laboratory, Inc.
  David Ditta, Complete Environmental Testing
  Jim Dziuba, Marin Environmental
  Thomas Morrisey, Director of Planning, Water Management Bureau, CT Dept. of Environmental Protection
  William Williams, Vice President, Consulting Environmental Engineers
  Ken Zercie, Assistant Director, State Police Forensic Laboratory

- **HUMANITIES**
  Dino Ciaburri, Adjunct Faculty, Gateway Community College, Headmaster, Milford Academy (Ret.)
  George Charlesworth, Attorney
  Donald Dimenstein, Director of Elderly Services (Ret.)
  Sandy Kooregian, Executive Director, Domestic Violence Services of Greater New Haven
  Paul Musco, Shoreline Chiropractic Services
  Howard Reitman, Director, Reitman Personnel Agencies
  Vivian Shipley, Professor of English, Southern CT State University
  John Artis Yopp, Director, Department of Children and Families

- **HUMAN SERVICES**
  Esther Armmand, City of New Haven
  Lisa Dannheim MS, Easter Seal Goodwill Industries Rehabilitation Center, Inc.
  Clifton E. Graves, Jr. Esq., Director of Affirmative Action, Southern CT State University
  Natalie Mihalchick TRD, West River Health Care Center of Milford
  Marita Shurkus, Continuous Improvement Coordinator, Regional Workforce Development Board of Greater New Haven
- **MANUFACTURING ENGINEERING TECHNOLOGY**
  Dr. Eben C. Cobb, Professor, Worcester Polytechnic Institute
  Russell J. Corriveau, Senior Manufacturing Engineer, Sargent Manufacturing Company
  Vincent Dinicola, Jr., Senior Manufacturing Engineer, U.S. Surgical
  Geraldo C. Reyes, Jr., General Manager, Sargent Manufacturing Company
  Robert Paternoster, Adjunct Faculty, Gateway Community College.

- **MECHANICAL ENGINEERING TECHNOLOGY**
  John Bokowski, Operation Consultant, United Illuminating
  William Celotto PE Retired, Mechanical Engineering Technology, Gateway Community College
  Ilias Diamantis, Project Engineer, Parker Hannifin Corporation
  John Sarris, Ph.D, Chair, Mechanical Engineering Department, University of New Haven
  Protais Tala, Validation Engineer, CAS Medical System, Inc.

- **NURSING**

    Susan Diehl, Professor & Chair, Nursing Division, University of Hartford

    Lindsay Donnelly, Nursing Education Coordinator, Gaylord Hospital

    Mary Ann Glendon, RN to BSN Coordinator, Southern CT State University

    Peggy Joyce, Administrator, Whitney Center

    Judy Hahn, Director of Education & Professional Development, Yale New Haven Hospital

    Carol Martineau, Supervisor, Elim Park Health Care & Rehab

    April McGrath, Graduate, Gateway Community College

    Lisa O'Connor, Director of Undergraduate Nursing Program, Quinnipiac University

    Linda Pellico, PhD, APRN, Yale University School of Nursing

    Lisa Rebeschi, Chairperson & Associate Professor, Dept. of Nursing, Eli Whitney Technical H.S.

    Melinda Schoen, VP for Nursing, Masonicare

    Ginnine Tanoia, Montowese

    Beverly Tontini, HR Recruiter, VNA

- **NUTRITION**

    Dietetic Technology

    Donna Caseria, RD**,** Clinical Nutrition Research Coordinator, Yale-New Haven Hospital

    Georgia Chavent, RD, Director of Dietetics, University of New Haven

    Marcia Doran, RDN, Professor, Gateway Community College

    Kelliann Festa, Dietetic Technology student, Gateway Community College

    Pam Galasso, RD, Nutrition Consultant

    Patricia Franco RD, A.S. South Central Community College, Clinical Staff Dietitian, Hospital of St. Raphael

    Nina Ruckes, RD, Nutrition Consultant

    Wanda Hamilton DTR, Community Nutritionist, UCONN Cooperative Extension

    Stella Leone Dietetic Technology student, Gateway Community College

    Sally Oneto, Dietetic Technology student, Gateway Community College

    Paula Warncke, Dietetic Technology student, Gateway Community College

- **RADIOLOGY**

    Denise Allen, Radiation Therapist, Lawrence and Memorial Hospital

    Amy Barocsi, Chief Technologist, Nuclear Medicine, Milford Hospital

    Elizabeth Beaudin, Director, Nursing and Workforce Initative, Connecticut Hospital Association

    Kathleen Bell, Supervisor, Yale-New Haven Shoreline Medical Center

    Karen Blackburn, Assistant Administrator of Radiology, William W. Backus Hospital

    Michael Bohan, Radiation Safety Officer, Yale-New Haven Hospital

    Jim Bond, Radiation Physicist, Yale-New Haven Hospital

    Virginia Bowolick, Chief Radiation Therapist, Bridgeport Hospital

    Vicki Bozzuto, Dean of Continuing Education and Workforce Development, Gateway Community College

    Bill Brown, Manager, Diagnostic Radiology, Yale-New Haven Hospital

    Gloria-Mary Calhoun, Radiation Therapist, Yale New Haven Hospital, St. Raphael Campus

    Melanie Caruso, Clinical Instructor, Department of Ultrasound, Middlesex Hospital

Cara Case, Chief Sonographer, County OB/GYN

Karen Caturano, Chief Technologist, Nuclear Medicine, Middlesex Hospital

David Cheng, M.D., Ph.D.**,** Nuclear Medicine, Yale-New Haven Hospital

Christine Cooper, Director of Radiology & Cardiology, Griffin Hospital

Anne Curtis, M.D.**,** Clinical Professor, Department of Diagnostic Imaging, Yale-New Haven Hospital

Lori Daley, Chief Technologist, Nuclear Medicine Department, VA Connecticut Healthcare System, West Haven Campus

Nancy DeStefano, Lead Sonographer, Department of Ultrasound, Middlesex Hospital

Robert DeVito, Manager, Department of Diagnostic Imagine, Yale-New Haven Hospital

Kathryn Durand, Director of Education, Radiology, Lawrence & Memorial Hospital

James Forcade, Chief Technologist, Nuclear Medicine, UCONN Health Center

Elizabeth Gomez, Human Resources, William W. Backus Hospital

Cheryl Granucci, Director, Diagnostic Radiology, Yale-New Haven Hospital

Matthew Gregory, Chief Technologist, Nuclear Medicine, Yale-New Haven Hospital

Lorna Grohns, Manager, CATSCAN, Yale-New Haven Hospital

Kathy Hale, Radiation Therapy Instructor

Kathleen Hansen, Chief Technologist, Nuclear Medicine, MidState Medical Center

Pamela Hart, Radiologic Technologist, YNHH Guilford Sports Medicine

Bonnie Hensen, Lead Sonographer, VA Connecticut Healthcare System, West Haven Campus

Susan Higgins MD, Oncology Physician, Yale-New Haven Hospital

Tony Hrenyo, Lead Sonographer, Milford Hospital

Alan Iovino, Chief Sonographer, Ultrasound, Norwalk Hospital

Diane Jay, Director of Radiology, Connecticut Children's Medical Center

JoAnne Jones, Chief Technologist, Bridgeport Hospital Radiology

John Kim, Chief Dosimetrist, Yale-New Haven Hospital

Mark Lewis, Chief Technologist, Radiology Department, VA Connecticut Healthcare System, West Haven Campus

LuAnn Lightfoot, Clinical Instructor, Diagnostic Medical Sonography

Ted Lombardo, Ultrasound Supervisor, New Britain Hospital

Molly Lund, Medical Dosimetrist, Bridgeport Hospital

John Magee, Sonographer Supervisor Ultrasound, Bridgeport Hospital

Danette Mathews, Clinical Supervisor, Nuclear Medicine, UCONN Health Center

Debi Mauriello, Director, Diagnostic Imaging, Milford Hospital

Sue McLean, Supervisor, Radiation Oncology, Danbury Hospital

Shalene Neeman, Chief Radiation Therapist, Yale New Haven Hospital St. Raphael's Campus New Haven

Marion Owen, Sonographer, Supervisor of Ultrasound, William W. Backus Hospital

Susan Palumbo, Lead Sonographer, Ultrasound, Connecticut Children's Medical Center

Diana Pasqua Kardamis, Chief Technologist, Nuclear Medicine, Griffin Hospital

Lori Pellegrino, Senior Staff Technologist, Nuclear Medicine, Yale-New Haven Hospital

Michele Pepe, Manager, Nuclear Medicine, Yale-New Haven Hospital

Maureen Perachio, Manager, MR, Yale New Haven Hospital

Darcy Phillips, Manager, Nuclear Medicine, Lawrence & Memorial Hospital

Lauren Pierce, Supervisor/Lead Ultrasound Technologist, Bristol Hospital

Marianne Pollizano, Technologist, Nuclear Medicine, Waterbury Hospital

Laura Quillia, Supervisor, Nuclear Medicine, Lawrence & Memorial Hospital

James Ricci, Chief Technologist, Nuclear Medicine, William W. Backus Hospital

Mike Richards, Student Supervisor of Ultrasound, Waterbury Hospital

Linda Rossetti, Clinical Instructor, Radiology Department, Bridgeport Hospital

Kyle Salerno, Sonographer, Supervisor of Ultrasound, Hospital of Saint Raphael

Rachel Sanderson, Radiation Therapist, Gateway Community College

Christina Sartori, Radiation Therapist, Yale New Haven Hospital St. Raphael Hamden Campus

Marcie Scalia, Manager, Cardiac Imaging, Yale-New Haven Hospital

Nancy Schebell, Radiologic Technologist, Griffin Hospital

Jamie Sheehan, Chief Technologist, Nuclear Medicine, Yale New Haven Hospital St. Raphael Campus

Roseann Shore, Clinical Instructor, Gateway Community College

Anthony Sicignano, Senior Staff Technologist, Nuclear Medicine, Yale New Haven Hospital St. Raphael Campus

Irene Smith, Sonographer, Supervisor Ultrasound, Griffin Hospital

John Soha, Sonographer, Supervisor Ultrasound, Saint Francis Hospital

Peter Sposato, Pharmacy Manager, Cardinal Health Nuclear Pharmacy Services

Mary Starno, Clinical Supervisor, Radiation Therapy Department, Yale-New Haven Hospital

Linda Tamplini, Supervisor, Bridgeport Hospital-Antenatal Unit

Joseph Tatta, Administrator, Radiology Department, Hospital of Saint Raphael

Michael Tatta, Administrator, Department of Radiology, Bridgeport Hospital

Richard Thayer, Clinical Instructor, Gateway Community College

Dawn Tomaszewski, Manager, Interventional Radiology, Yale-New Haven Hospital

Vera Tsatkin, Chief Technologist, Nuclear Cardiology, Yale-New Haven Hospital

Patsy Twohill, Emergency Department, Yale-New Haven Hospital

Robert Varsanik, Chief Technologist, Nuclear Medicine, Saint Francis Hospital and Medical Center

Lynn Wilson, M.D., Associate Professor, Therapeutic Radiology, Yale-New Haven Hospital

- **RAILROAD ENGINEERING TECHNOLOGY**

Brian Clark, CTC&S

Paul Constantinople, Retired, Metro North Railroad

Jose Correia, Foreman, MTA Metro-North Railroad

Marcellus Edwards, Conductor, MTA Metro-North Railroad

Garrick Fearson, Sr. Productivity Planner, MTA Metro-North Railroad

Lawrence Ivy, Foreman, Mechanical, MTA Metro-North Railroad

Keith Kalish, Radio Maintainer, MTA Metro-North Railroad

Wayne Sanford, President, Shoreline Trolley Museum

Frank Vega, Foreman General I - MTA Metro-North Railroad

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DIRECTIONS

New Haven Campus 20 Church Street, New Haven, CT 06510

From Hartford

I-91 South to I-95 South (New York). Take Exit 46, Long Wharf (first exit on the right). At the bottom of the exit ramp, turn right onto Sargent Drive. Go straight. Turn left at the traffic light on Church Street and go over the bridge toward downtown New Haven. The college is on the left.

From New London

I-95 South (New York). Take Exit 46, Long Wharf (first exit on the right). At the bottom of the exit ramp, turn right onto Sargent Drive. Go straight. Turn left at the traffic light on Church Street and go over the bridge toward downtown New Haven. The college is on the left.

From New York

I-95 North to exit 47 toward Downtown New Haven. Make a slight right onto N Frontage Road. Turn Right onto Church Street. The college will be on your left.

North Haven Campus 88 Bassett Road, North Haven, CT

From New Haven and Points South

I-95 North and I-91 North to Exit 11. At the end of the exit ramp, turn right onto Route 22. Proceed to third traffic light and turn left onto Bassett Road. The college is on the right, approximately 1/4 mile.
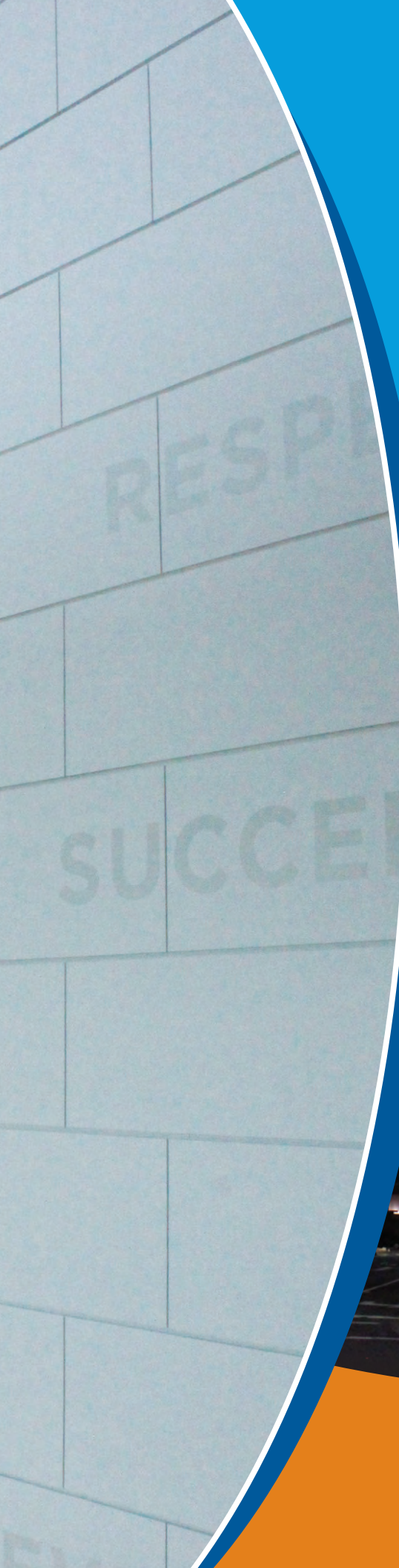
--- Or ----

Route 15 (Wilbur Cross/Merritt Parkway) to Exit 63. At the end of the exit ramp, turn right onto Route 22. Proceed to the fourth traffic light and turn left onto Bassett Road. The college is on the right, approximately 1/4 mile.

From New London and Points East of New Haven

I-95 South to I-91 North to Exit 11. At the end of the exit ramp, turn right onto Route 22. Proceed to the third traffic light and turn left onto Bassett Road. The college is on the right, approximately 1/4 mile.

From Hartford and Points North

I-91 South to Exit 12 (Washington Avenue). At the end of the exit ramp, turn left. Proceed to the second traffic light and turn left onto Blakeslee Avenue. At the end of the road, turn left onto Bassett Road. The college is on the right, approximately 1/4 mile.

Gateway
Community College

Gateway Community College

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