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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.

2005-2007 CATALOG



“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 2005-2006

FALL 2005

August 30	Open Registration
August 31	Professional Day
September 1	College Day
September 2	First Day of Classes
September 5	Labor Day (College Closed)
September 12	Last Day To Add Classes 7:00 P.M.
September 23	System Professional Development Day, No Classes
October 10	Columbus Day, College Closed
October 14	Mid-Term Deficiency Reports Due from Faculty
November 4	Last Day to Make Up Incomplete Grades from Spring 2005
November 23	Faculty and Staff Planning Day, No Classes
November 24-27	Thanksgiving Recess
December 13	Make-up Day – No Classes
December 16	Last Day of Classes
December 17-23	Final Examinations
December 27	Final Grades Due From Faculty by <u>12:00 NOON</u>
December 29	Semester Ends

SPRING 2006

January 16	Martin Luther King Day, College Closed
January 17	Open Registration
January 18	Professional Day
January 19	College Day
January 20	First Day of Classes
January 27	Last Day to Add Classes 4:00 P.M.
February 20	President's Day, College Closed
March 3	Mid-Term Deficiency Reports Due from Faculty
March 19-26	Spring Recess
April 10	Last Day to Make up Incompletes from Fall 2005
April 14-15	Easter Recess – College Closed
May 8	Last Day of Classes
May 9	Make Up Day – No Classes
May 10-16	Final Examinations
May 18	Final Grades Due From Faculty <u>by NOON</u>
May 25	Graduation
May 29	Memorial Day, College Closed
June 1	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 now one of twelve community colleges in Connecticut.

In the academic year 2004-2005, the College served the educational needs of approximately 8,500 full- and part-time students at both campuses through more than eighty academic programs or program options that lead to a certificate or to an associate degree in art, science, or applied science. Nearly 3,000 more students enrolled in non-credit courses and Business and Industry Services programs. During the last academic year, nearly 65 percent of students were enrolled in one of the College's degree or certificate programs or program options. Courses at both locations are offered at convenient times for both full- and part-time study during the day, evening, and Saturdays. The faculty is one of the finest in Connecticut. The College's 326 full- and part-time faculty members and 317 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.

At the Long Wharf Campus, the focus is on associate degrees and certificates in academic and career programs. The North Haven location offers associate degrees and certificates in health care fields, engineering technology, technical study programs, and more. All degree programs are transferable to four-year colleges and universities. Curricula have been designed with local employment needs in mind.

The community also benefits from Gateway's numerous credit-free offerings. Developmental courses in English, mathematics and science, and English as a Second Language are offered in response to the educational, economic, and socio-cultural needs of the region. The Business and Industry Services office provides workforce development, business development, and technology transfer programs.

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), Toyota (T-TEN), and the Alternative Fuel Certificate Program) are certified by the National Automotive Technicians' Education Foundation Inc. (NATEF).

The Electrical Engineering Technology and Mechanical Engineering Technology programs are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

The Dietetic Technology Program is currently granted developmental accreditation by the Commission on Accreditation for Dietetics Education of the American Dietetic Association, 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 Programs in Radiologic Technology and the Joint Review Committee on Education in Nuclear Medicine Technology accredit the Radiologic Technology Program (Diagnostic Medical Sonography [pending], Nuclear Medicine Technology, Radiography, and Radiation Therapy Technology). (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 Rehabilitation 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), 61 Broadway-33rd Floor, New York, New York 10006; Telephone: 800-669-1656 ext. 153; Fax: 212-812-0390; www.nlnac.org

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 2004-2005, the College served the educational needs of approximately 8,500 full- and part-time students at both campuses through more than eighty academic programs or program options that lead to a certificate or to an associate degree in the arts, sciences, or applied sciences. Nearly 3,000 more students enrolled in non-credit courses for personal enrichment, continuing education or training geared to business and industry.

Females comprise 64 percent of the College enrollment; 41 percent of students are members of ethnic minorities; and 70 percent attend GCC on a part-time basis. The average student age is 29.

Approximately 85 percent of our occupational and technical program graduates enter the workforce immediately after graduation. Based on a survey of graduates, 14 percent chose to continue their studies at the baccalaureate level.

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

INSTITUTIONAL POLICIES

AFFIRMATIVE ACTION

Gateway Community College is an academic unit of the Connecticut Community College System. The College administration executes the academic policies and procedures promulgated by its governing board that relate to equal employment for those individuals from protected class groups found to be under-utilized in the College's work force. The President of the College is the agent of the Board of Trustees charged with the responsibility to execute the Board's policies and to achieve the goals and timetables set forth in the Affirmative Action Plan.

AIDS AND OTHER COMMUNICABLE DISEASES

The community college system reaffirms its commitment to provide a safe and healthy educational environment, safeguard the rights of individuals, and comply with state and federal antidiscrimination laws and regulations. Sound and compassionate legal, ethical, moral, and educational principles require that students and employees with AIDS, HIV infection, and other communicable diseases be accorded the same rights and assume the same responsibilities as all other members of the community college community. It is recognized that the best method of allaying fears and promoting understanding is education: the dissemination of information based on fact and current scientific knowledge.

1. People with AIDS and other communicable diseases shall be accorded the same rights as all other students and employees. State and federal laws and regulations prohibit discrimination against and harassment of individuals solely because of disability. No individual shall be discriminated against in any college programs, services, or employment solely because of his or her status as AIDS- or HIV-infected or having any other communicable disease.
2. Each college shall provide information and educational programs and activities concerning AIDS and other communicable diseases for students and employees. Such information and programs shall rely on the most current knowledge about such diseases and shall focus on how such diseases are and are not transmitted, how they can be prevented, and the rights of persons with such diseases.
3. Each college president shall designate an individual responsible for coordination, delivery, and evaluation of the college AIDS education program. A committee representative of the college community should be involved in formulating educational and information activities.
4. Restrictions shall not be placed on admission, programs, services, or employment offered to an individual on the basis of a diagnosis of AIDS, HIV infection, or other communicable disease, except in individual cases when it has been medically determined that there is risk of infection or danger to others or in programs from which individuals with specific communicable diseases are excluded by law or regulation.
5. Colleges shall not require testing of students or employees for AIDS, HIV infection, or other communicable diseases for participation in employment, programs, or services of the college, except as required by law or regulation. Where possible, colleges shall maintain a listing of local referral sources for such testing and shall publish such listing with other educational information.
6. All student or employee information related to inquiries, testing, and disclosure of AIDS, HIV, or other infection status shall be treated confidentially as all other health records. All reasonable steps shall be taken to protect the identity of an individual with AIDS.
7. Students and employees involved in the direct delivery of health care services and those who might otherwise come in contact with blood and other body fluids (such as in science laboratories or allied health practica) shall at all times follow the guidelines regarding precautions to be taken in the handling of such fluids disseminated by the Department of Health Services (January 1987, provided as Appendix A) or other approved guidelines.
8. Violations of any part of this policy shall be dealt with under the appropriate disciplinary procedures for students or employees.
9. This policy shall be published in all college catalogs and student handbooks and shall be made available to all employees.

* All community college employees are further subject to the June 3, 1988 "AIDS Policy for State Personnel" and the January 1987 "AIDS Guidelines for State Personnel."

DRUGS AND ALCOHOL

The Board of Trustees of Community-Technical Colleges endorses the statement of the network of colleges and universities committed to the elimination of drug and alcohol abuse, which is based on the following premise:

American society is harmed in many ways by the abuse of alcohol and other drugs — decreased productivity, serious health problems, breakdown of the family structure, and strained social resources. Problems of illicit use and abuse of substances have a pervasive effect upon many segments of society — all socioeconomic groups, all age levels, and even the unborn. Education and learning are especially impaired by alcohol abuse and illicit drug use.*

The board recognizes that education regarding alcohol and substance abuse is an appropriate and even necessary part of contemporary college life. Since the unauthorized use of controlled substances, in addition to the potential harmful effect it may have on students and employees, is contrary to state and federal law and regulation, it must be prohibited in any college activity, on or off the college campus. Although the conditions of alcohol and drug dependency may be considered disabilities or handicaps under state and federal law and regulation and Board of Trustees policy, and employees and students will not be discriminated against because they have these disabilities, all students and employees are considered to be responsible for their actions and their conduct.

* Statement of the Network of Colleges and Universities Committed to the Elimination of Drug and Alcohol Abuse

These provisions shall apply to all colleges under the jurisdiction of the board:

1. No student or employee shall knowingly possess, use, distribute, transmit, sell, or be under the influence of any controlled substance on the college campus or off the college campus at a college-sponsored activity, function, or event. Use or possession of a drug authorized by a medical prescription from a registered physician shall not be a violation of this provision.
2. All colleges shall develop and enforce policies regarding the sale, distribution, possession, or consumption of alcoholic beverages on campus, subject to state and federal law. Consistent with previous board policy, the consumption of alcoholic beverages on campus may be authorized by the president subject to the following conditions, as appropriate:
 - a. when a temporary permit for the sale of alcoholic beverages has been obtained and dram shop act insurance has been purchased;
 - b. when a college permit has been obtained;
 - c. when students bring their own beverages;
 - d. when alcoholic beverages are provided by a student organization and no fee is charged for attendance or for said beverages.
3. All colleges shall provide educational programs on the abuse of alcohol and other drugs and referral for assistance for students and employees who seek it. Colleges are encouraged to establish campus-wide committees to assist in development of these programs in response to particular campus needs and identification of referral resources in their respective service planning regions.
4. This policy shall be published in all college catalogs, faculty and staff manuals, and other appropriate literature.
5. Failure to comply with this policy will result in invocation of the appropriate disciplinary procedure and may result in separation from the college and referral to the appropriate authorities for prosecution.

DRUG-FREE WORKPLACE

U.S. Department of Education regulations published on January 31, 1989, implementing the Drug-Free Workplace Act of 1988, require any agency awarded federal grants after March 18, 1989, to provide certification that it will maintain a drug-free workplace.

To this end, Gateway Community College certifies that it will provide a drug-free workplace by:

- a. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibitions;
- b. Establishing a drug-free awareness program to inform employees about:
 1. The dangers of drug abuse in the workplace;
 2. The College's policy of maintaining a drug-free workplace;
 3. Any available drug counseling, rehabilitation, and employee assistance programs; and
 4. The penalties that may be imposed on employees for drug abuse violations occurring in the workplace;

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- c. Making it a requirement that each new employee be given a copy of the statement described in paragraph **a**;
 - d. Notifying the employee in the statement described in paragraph **a** that, as a condition of employment, the employee will:
 1. Abide by the terms of the statement, and
 2. Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction;
 - e. Notifying the agency within ten (10) days after receiving a notice as described in subparagraph **d-2**, or having otherwise received legitimate notice of such conviction;
 - f. Taking one of the following actions, within thirty (30) days of receiving notice under subparagraph **d-2**, with respect to any employee who is so convicted:
 1. Taking appropriate personnel action against such an employee, up to and including termination; or
 2. Requiring such an employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a federal, state, or local health, law enforcement, or other appropriate agency;
 - g. Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs **a** through **f**.

MEASLES/RUBELLA

Public Act 89-90 requires that all full-time or matriculated Connecticut college students born after December 31, 1956, provide proof of adequate immunization against measles and rubella. Exemptions will be granted only

1. For medical reasons, confirmed by a physician's statement;
2. If the student has had measles and/or rubella and a physician's or health department certificate verifying this (laboratory evidence demonstrating immunity must be presented); or
3. If religious beliefs do not allow students to be vaccinated and they sign a statement to that effect. If students claim a religious or medical exemption and there is an outbreak of measles or rubella on campus, those students may be excluded from college activities, including classes and exams.

Public Act 03-13 eliminates the requirement for higher education institutions to obtain proof of measles and rubella immunization before enrolling a full-time or matriculating student who (1) graduated from a Connecticut public or private high school in 1999 or later and (2) was not exempt from offering proof of immunization when enrolled in that school for religious reasons or because immunization was medically contraindicated.

Student Compliance

Full-time or part-time students enrolled in a degree or certificate program who were born after December 31, 1956, must present proof of adequate immunization against both measles and rubella as explained below. Proof includes such documentation as a medical record, a physician's statement, or an elementary or secondary school health record.

Adequate Immunization

Measles: Students must provide verifiable evidence of two (2) doses of measles vaccine — one dose administered after January 1, 1969, and a second dose administered after January 1, 1980. NOTE: In order for the second dose to be effective, at least thirty (30) days must have elapsed since the first dose was administered.

Rubella (German Measles): Students must provide verifiable evidence of one (1) dose administered after the first birthday.

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

TRAFFIC AND PARKING

The following traffic and parking regulations apply to both the Long Wharf and North Haven Campuses:

1. Parking of student vehicles shall be in designated areas only and is at the student's own risk. There is no student parking in the area designated for faculty. Areas zoned by yellow stripes are designated as NO PARKING areas. The driveways in front of the building are designated as FIRE LANES; no parking or standing is allowed in these areas at any time, except to drop off passengers. Handicapped parking areas at each campus are located in the parking lot immediately across from the main entrance.
2. The campus speed limit is 10 mph.
3. Traffic violations are punishable by fines and/or towing of vehicle at the owner's expense. Parked vehicles that create a hazard, impede traffic flow, or restrict parking will be tagged and/or towed at the owner's expense.

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4. Fines must be paid in the Business Office within one (1) week of issuance. The student will be unable to register for future courses until the fine is paid.
 5. All violations are subject to appeal through the Traffic Appeals Committee. Requests for appeal should be made through the Dean of Administration, Louis D'Antonio, at (203) 285-2021.

PERSONS WITH DISABILITIES

The Board of Trustees of Community-Technical Colleges and all of the colleges under its jurisdiction are committed to the goal of achieving equal educational opportunity and full participation for people with disabilities in the community colleges. To that end, this statement of policy is put forth to reaffirm our commitment to ensure that no qualified person be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity on a community college campus or in the system office of the Board of Trustees.

The board recognizes that a physical or functional impairment is a disability only to the extent that it contributes to cutting the person off from some valued experience, activity, or role. Higher education is therefore especially important to people with disabilities, since it aims to increase every student's access to valued experiences, activities, and roles. Improving access for students and employees means removing existing barriers that are physical, programmatic, and attitudinal; it also means taking care not to erect new barriers along the way.

The efforts of the community colleges to accommodate people with disabilities should be measured against the goals of full participation and integration. Services and programs best promote full participation and integration of people with disabilities when they complement and support, but do not duplicate, the regular services and programs of the college.

Achieving the goal of full participation and integration of people with disabilities requires cooperative efforts within and among higher education. The Board of Trustees will work with the board of governors to achieve a higher level of services and appropriate delivery methods at all Connecticut Community Colleges.

This statement is intended to reaffirm the board's commitment to affirmative action and equal opportunity for all people and in no way to replace the equal opportunity policy statement. Any comments, questions, or concerns about these policies should be directed to the Learning Disabilities Specialist (Section 504 Coordinator), Toni Page, at (203) 285-2234 tpage@gwcc.commnet.edu.

RACISM AND ACTS OF INTOLERANCE

The community colleges have long been committed to providing educational opportunities to all who seek and can benefit from them, as evidenced in the mission statements and policies concerning student rights, affirmative action, and equal opportunity. The board and the colleges recognize that an important part of providing opportunity is creating a welcoming environment in which all people are able to work and study together, regardless of their differences. At the same time, colleges and universities have traditionally been at the cutting edge of protection of our most cherished freedoms, most notably freedom of speech and non-violent action, which protect even unpopular or divisive ideas and perspectives.

Such constitutionally-protected expression can contribute to an unwelcoming and even offensive social and educational environment for some individuals in the college community, particularly when it concerns race, religion, sex, sexual orientation, disability, national origin, or ethnicity, and the first amendment does not preclude colleges from taking affirmative steps to sensitize the college community to the effects of creating such a negative environment.

Therefore, the community colleges recognize that they have an obligation not only to punish proscribed actions, but also to provide programs which promote pluralism and diversity and encourage the college community to respect and appreciate the value and dignity of every person and his or her right to an atmosphere not only free of harassment, hostility, and violence but supportive of individual academic, personal, social, and professional growth.

Acts of racism or harassment directed against individuals or specific groups of individuals will not be tolerated and will be dealt with under the employee affirmative action grievance procedures and the student grievance and disciplinary procedures.

Each college will provide a comprehensive educational program designed to foster understanding of differences and the value of cultural diversity. This will include plans to (1) promote pluralism, (2) educate the college community about appropriate and inappropriate behaviors to increase sensitivity and encourage acceptance, and (3) widely disseminate this policy statement to the entire college community.

SEXUAL HARASSMENT

Sexual harassment is a form of sex discrimination, which is illegal under state and federal law and is also prohibited by the Board of Trustees' Nondiscrimination Policy. The board's policy recognizes that sexual harassment undermines the integrity of employer-employee and student-faculty-staff relationships and interferes with the right of all members of the college community to work and learn in an environment free from harassment. Sexual harassment will not be tolerated.

Sexual harassment may be described as:

Any unwelcome sexual advance or request for sexual favors, or any conduct of a sexual nature where (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or education, (2) submission to or rejection of such conduct by an individual is used as a basis for employment or academic decisions affecting the individual, or (3) such conduct has the purpose or effect of substantially interfering with an individual's academic or work performance or creating an intimidating, hostile, or offensive employment or educational environment.

Sexual harassment may be verbal, visual, or physical. It may be overt or implicit and may, but need not, have tangible adverse effects on the victim's employment or learning experience.

Examples of conduct which may constitute sexual harassment include, but are not limited to:

Sexual flirtation, touching, advances, or propositions

Verbal abuse of a sexual nature

Pressure to engage in sexual activity

Graphic or suggestive comments about an individual's dress or appearance

Use of sexually degrading words to describe an individual

Display of sexually suggestive objects, pictures, or photographs

Sexual jokes

Stereotypic comments based upon gender

Threats, demands, or suggestions that the retention of one's employment or educational status is contingent upon toleration of or acquiescence to sexual advances.

The perpetrator of sexual harassment, like the victim of such conduct, may be a man or a woman. Sexual harassment may involve individuals of the same or opposite sex and, in the college environment, may involve an employee and a student, an employee and another employee, or a student and another student. Sexual harassment in any of these relationships is a violation of the Board's policy.

Any comments, questions, or concerns about Gateway Community College's sexual harassment policy should be directed to the Affirmative Action Officer (Title VI and Title IX Coordinator), Vincent Tong, at (203) 285-2415 vtong@gwcc.commnet.edu.

SMOKING

Gateway Community College is a smoke-free establishment. No smoking is permitted anywhere in the buildings on either the Long Wharf or North Haven Campus. Outside smoking areas are designated at each campus.

STATEMENT OF NON-DISCRIMINATION

will not discriminate against any person on the grounds of race, color, religious creed, sex, age, national origin, ancestry, present or past history of mental disorder, marital status, mental retardation, sexual orientation, learning disability, or physical disability, including, but not limited to, blindness, or prior conviction of a crime, unless the provisions of sections 46a-60(b), 46a-80(b), or 46a-81(b) of the Connecticut general statutes are controlling or there is a bona fide occupational qualification excluding persons in one of the above protected groups. With respect to the foregoing, discrimination on the basis of sex shall include sexual harassment as defined in section 46a-60(8) of the Connecticut general statutes. Although it is recognized that there are bona fide occupational qualifications which provide for exception from employment prohibitions, it is understood these exceptions are to be applied pursuant to section 46a-68-33 of the administrative regulations.

Further, Gateway Community College will not discriminate against any person on the grounds of political beliefs or veteran status.

Further, it is the policy of Gateway Community College that no person shall be excluded from participation in, denied the benefits of, or otherwise discriminated against under any program, including employment, on the basis of race, color, religion, sex, marital status, sexual orientation, mental retardation, political beliefs, veteran status, age, criminal record, genetic information, ancestry, handicap, physical disability, learning disability, or national origin.

STUDENT DISCIPLINE

Section 1: Policy Statement

The Board of Trustees of Community-Technical Colleges adopts this policy on student discipline for the system of community colleges in recognition of the need to preserve the orderly processes of the colleges as well as to observe the students' procedural and substantive rights. As used herein, student means any person who is registered for a community college course, program, or extension offering.

Section 2: Proscribed Conduct

A community college may discipline a student in the following situations:

1. For conduct that damages or destroys, or attempts to damage or destroy, college property or property of others on college or college-related premises.
2. For conduct which constitutes a danger to the personal safety of other members of the college community, including guests or licensees of the college. Intentionally causing or attempting to cause injury is included within the meaning of this provision.
3. For conduct that obstructs or seriously impairs or attempts to obstruct or seriously impair college-sponsored or college-authorized activities on the college campus or other location where college-sponsored activity is carried on.
4. For unauthorized possession or attempted possession of college property or property of a member of the college community.
5. For acts which violate board or college rules and regulations.
6. For acts of racism, violence, or harassment which violate board policy on racism and acts of intolerance.
7. For making a knowingly false statement, either orally or in writing, to any employee or agent of the board or the college with regard to a college-related matter.
8. For forging, altering, or otherwise misusing any college document or record.
9. For knowingly possessing, using, transmitting, selling, or being under the influence of any dependency-producing drugs, as that term is now defined or may hereafter be defined by law, (1) on the college campus or (2) off the college campus at a college-sponsored activity, function, or event. Use or possession of a drug authorized by a medical prescription from a registered physician shall not be a violation of the provision.
10. For academic dishonesty, which shall in general mean conduct which has as its intent or effect the false representation of a student's academic performance, including but not limited to (a) cheating on an examination, (b) collaborating with others in work to be presented, contrary to the stated rules of the course, (c) plagiarizing, including the submission of others' ideas or papers (whether purchased, borrowed, or otherwise obtained) as one's own, (d) stealing or having unauthorized access to examination or course materials, (e) falsifying records or laboratory or other data, (f) submitting, if contrary to the rules of a course, work previously presented in another course, and (g) knowingly and intentionally assisting another student in any of the above, including assistance in an arrangement whereby any work, classroom performance, examination, or other activity is submitted or performed by a person other than the student under whose name the work is submitted or performed.

Section 3: Discipline Procedures

The Board of Trustees of Community-Technical Colleges believes that all members of the academic community are entitled to expect compliance with the restrictions of Section 2: Proscribed Conduct. Accordingly, any student or employee of the college may initiate a disciplinary process in the manner specified by this section. Once the process has been initiated, as provided in paragraph one (1) herein below, all subsequent decisions concerning possible discipline of a student or students rest with appropriate college officials. The disciplinary record of a student may be considered in determining the disciplinary penalty which is appropriate.

1. *A statement of possible violation* must be filed in writing with the dean of student affairs or other designee of the president (hereinafter referred to as the dean) within thirty days of the date of the alleged violation or within thirty days of the date the alleged violation was known. Said statement must specify the student conduct in question and the part or parts of Section 2: Proscribed Conduct which it is alleged said conduct violates.
2. *If the dean concludes* that the alleged conduct, taken as true, is violative of the provisions of Section 2: Proscribed Conduct, he or she shall provide written notice to the student of the statement of possible violation and the fact that the allegations will be investigated by the dean. Said notice must inform the student that he or she has the right to explain his or her position as part of the informal investigation.
3. *Following completion of the informal investigation* specified above, the dean may (a) determine that there is an insufficient basis in fact and dismiss the matter, (b) conclude that there is a sufficient factual basis for discipline and that discipline less than suspension or expulsion or removal of college privileges would be appropriate, or (c) conclude that there is a sufficient factual basis for discipline and that discipline including the possibility of suspension or expulsion or removal of college privileges would be appropriate.
4. *If discipline less than suspension or expulsion or removal of college privileges is contemplated*, the dean may, after an informal hearing, impose such discipline specified in Section Disciplinary Penalties, except suspension or expulsion or removal of college privileges, as he or she believes appropriate. As used herein, informal hearing means the opportunity for the student to be informed of the basis for the conclusion of the dean and to present argument and evidence in his or her behalf. Within fifteen days of the imposition of discipline under this provision, the student may request review of the action by the president. The president may confirm, reduce, or remove the disciplinary penalty.
5. *If discipline including suspension or expulsion or removal of college privileges is contemplated*, the dean shall cause a statement of charges to be served on the student involved. Said statement shall contain (a) a concise statement of the facts on which the charge is based, (b) a citation of the rule or rules alleged to have been violated, (c) a statement of the maximum penalty sought, (d) a statement that the student may request a hearing by responding in writing within fifteen days and requesting a hearing, and (e) a statement that failure to request a hearing may result in imposition of the maximum penalty sought.
6. *In the case of an emergency*, the dean may immediately suspend a student. An emergency means a situation under which the continued presence of the student at the college poses a danger to persons or property or constitutes an ongoing threat of disrupting the academic process. A student suspended as a result of an emergency shall be afforded written reasons for the suspension and a statement that he or she is entitled to a formal hearing as soon as possible, but in no event longer than ten days.
7. *If a formal hearing is requested*, the student is entitled to the following: (a) to choose to be heard by either an impartial party or panel appointed by the president, (b) when a hearing before a panel is chosen, to have student representation on the panel, (c) to appear in person and to have a representative, (d) to hear and to question adverse witnesses, (e) to present evidence and testimony in his or her behalf, (f) to a written decision following the hearing, and to a review by the president of the hearing decision upon the request of the student made within fifteen days of the decision. As used herein, the term impartial shall mean that the individual was not a party to the incidents under consideration and has no personal interest in the outcome of the proceedings. The chancellor may promulgate rules for the conduct of formal hearings.
8. *The president is authorized* to appoint college employees and students as the impartial party or panel specified herein and he or she may remove any appointee. Prior to the commencement of the hearing, the student subject to the discipline proceeding may challenge any such appointment on the ground that the person(s) is (are) not impartial. The challenge is to be made to the president and the decision of the president shall be final.
9. *The written decision of the panel* shall specify its findings and the penalty assessed, if any. In the case of an appeal, the president may confirm, reduce, or remove the penalty specified.
10. *Except in the case of an emergency* as defined in (6) above, no disciplinary penalty may be implemented during the fifteen days in which a student is entitled to request a review by the president of the decision of an informal or formal hearing, nor during the period in which any such review is being conducted by the president.

Section 4: Disciplinary Penalties

1. *Disciplinary penalty* shall mean any action affecting the status of an individual as a student taken by the college in response to student misconduct, including but not limited to the following:
2. *Expulsion*. Expulsion is permanent disciplinary separation from the college involving denial of all student privileges, including entrance to college premises.
3. *Suspension*. Suspension is temporary disciplinary separation from the college involving denial of all student privileges, including entrance to college premises.
4. *Removal of College Privileges*. This penalty may involve restrictions on student privileges for a definite period of time, not to exceed two semesters.
5. *Disciplinary Probation*. Disciplinary probation is a status which indicates either (a) serious misconduct not warranting suspension, expulsion, or removal of college privileges or (b) repetition of misconduct after disciplinary warning has been imposed.
6. *Disciplinary Warning*. Disciplinary warning involves written notice to the student indicating what specific behavior or activity is in violation of these regulations and that repetition of similar or other unsatisfactory behavior would likely result in more serious disciplinary action.
7. *Community Service*. Community service involves an obligation, agreed to by the student as an alternative to 1 through 5, above, for a given number of hours of service on the campus or in the community at large.

Classroom Disruption Procedures:

Instructors hold classes for everyone's benefit and have the right to expect full cooperation from all students. The classroom is a small vital community devoted to teaching and learning. Mutual respect and appropriate behavior are essential elements in this academic setting.

In the event that disruptive behavior occurs in the classroom, the instructor should follow these sequential steps as necessary. (If, in the instructor's judgment, the situation necessitates immediate intervention, the instructor should contact the assigned college administrator or the Dean of Students.)

1. Instruct the student to stop the objectionable behavior and/or ask the student to leave the classroom for the remainder of the class.
2. Meet with the student privately. The purpose of this meeting is to:
 - a. present the student with the specific behaviors that were unacceptable and discuss their impact on the learning process; and
 - b. issue a verbal warning that the behavior(s) cannot be tolerated in the future. If the student was asked to leave the classroom, the student must initiate a meeting with the instructor before the next class; otherwise, the instructor may refuse the student attendance.
3. Should the behavior persist after the instructor has given a warning, the instructor should follow the College's disciplinary procedures by forwarding a written statement of the incidents to the Dean of Students.
4. Upon receipt of the instructor's statement, the Dean of Students may conclude that discipline less severe than removal of college privileges, suspension, or expulsion would be appropriate, such as (but not limited to) withdrawal from class. The dean will inform the instructor and the student of this decision.
5. If the Dean of Students concludes that there is sufficient factual basis for more severe discipline (e.g., suspension or expulsion) he/she will proceed as indicated in the Policy on Student Discipline.

STUDENT RECORDS AND CONFIDENTIALITY

The College maintains students' records and files according to the Family Educational Rights and Privacy Act of 1974. Each student has the right to inspect and review records that contain information directly related to the student. The College will not release student records or information to anyone other than the student unless written permission is granted by the student.

STUDENT RIGHTS

Section 1: Rights of Students

It is the policy of the Board of Trustees of Community-Technical colleges that the educational offerings of the community colleges be available to students without regard to the individual's race, color, religious creed, sex, age, national origin, ancestry, present or past history of mental disorder, marital status, sexual orientation, mental or learning or physical disability, including, but not limited to, blindness, or prior conviction of a crime (unless the provisions of sections 46a-60(b), 46a-80(b), or 46a-81(b) of the Connecticut general statutes are controlling or there is a bona fide educational qualification excluding persons in one of the above protected groups). With respect to the foregoing, discrimination on the basis of sex shall include sexual harassment as defined in Section 46A-60(8) of the Connecticut General Statutes. Further, the system will not discriminate against any person on the grounds of political beliefs or veteran status.

Students are entitled to an atmosphere conducive to learning and to impartial treatment in all aspects of the teacher-student relationship. The student should not be forced by the authority inherent in the instructional role to make particular personal choices as to political action or his or her own part in society. Evaluation of students and the award of credit must be based on academic performance professionally judged and not on matters irrelevant to that performance, whether personality, race, religion, degree of political activism, or personal beliefs. Students are free to take reasoned exception to the data or views offered in any course of study, but they are responsible for learning the content of the course of study as defined by official college publications.

Community college students are both citizens and members of the academic community. As citizens they enjoy the same freedom of speech, peaceful assembly, and right of petition that other citizens enjoy, and as members of the academic community they are subject to the obligations which accrue to them by virtue of this membership.

Section 2 : Student Grievance Procedure

1. *Definition:* A grievance is an allegation by a student that, as to him or her, an agent of the college has violated board or college policies relating to students other than assignment of grades or other academic evaluation (see Section 3: Review of Academic Standing).
2. *How to file a grievance:* A grievance is to be submitted in writing to the dean of student affairs or such other college official as the president may designate (hereinafter, the dean of student affairs), within thirty days of the date the grievant knew or reasonably should have known of the alleged violation. The written grievance shall specify the right claimed to have been violated and state briefly the underlying facts.
3. *Procedure for grievance resolution:* The dean of student affairs shall investigate the grievance and, within thirty days from the time the grievance was submitted recommend to the president a disposition of the grievance, except as provided hereinafter:
 - a. In the course of each investigation, the dean of student affairs shall consult with the dean responsible for the area of college operations in which the grievance arose.
 - b. In the case of a grievance alleging discrimination based on race, color, religious creed, sex, age, national origin, ancestry, present or past history of mental disorder, marital status, mental retardation or physical disability, prior conviction of a crime, political beliefs, veteran status, or sexual preference, the dean of student affairs shall consult with the college's affirmative action person during the course of the investigation.
 - c. In the case of a grievance against a dean, the grievance shall be filed with the president.

The president may accept or reject the recommendation, or direct such further investigation as he or she deems appropriate. The president shall notify the student of the final disposition of the grievance within fifteen days of receiving the recommendation, except for good cause or as provided in 4., below.
4. *Advisory Committee:* The president may establish an advisory committee of students and staff which may be charged with the responsibility of making recommendations at either the level of the deans or the president. The president may appoint and remove members of the committee. If an advisory committee is appointed, the president shall establish a reasonable time frame within which the committee must make recommendations.

Section 3: Review of Academic Standing

A student may seek review of the assignment of a grade or other decision affecting academic status in accordance with the following procedure:

1. *The grade or academic decision* affecting academic status should be discussed informally with the instructor or official responsible for the decision within fifteen calendar days of the student's awareness of the decision.
2. *If the matter is not satisfactorily adjusted* within ten calendar days of this appeal or the instructor is not available, the student may refer the matter to the academic dean by filing a written appeal. The appeal must be filed with the academic dean within thirty calendar days of the student's awareness of the decision which is being appealed.

Upon receipt of such appeal, the dean shall meet with the instructor, if he or she is available, to determine that step 1 has taken place or is not possible and to receive relevant information from the instructor responsible for the decision. The dean may then refer the matter to the academic supervisor for informal consideration prior to step 3 below.

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3. *The academic dean or other designated official(s) shall afford review as provided below. The president may designate an official or an academic appeals committee to provide review at this step in lieu of the academic dean.*

The student shall be afforded the right to present a statement of appeal and relevant information in support of it. It is the student's responsibility to show that the decision in question is arbitrary, i.e., without a reasonable basis, or was made for improper reasons in violation of section 1 of this policy. The student is entitled to a written response within thirty days of the completion of his or her presentation. A decision to change the grade or modify the decision which has been appealed is advisory to and subject to the approval of the president.

4. *The foregoing decision may be appealed to the president by filing a statement of appeal within ten calendar days of the date of the decision. Review by the president shall be on the basis of the written record unless he or she decides that fairness requires broader review. The decision of the president shall be final.*
5. *The time frames provided herein may be modified by the president for good cause shown.*

UNIFORM CAMPUS CRIME REPORT

In accordance with Connecticut Public Act 90-259, the Campus Safety Act, the college has prepared a Uniform Campus Crime Report consistent with the FBI's Uniform Crime Reporting System. This report reflects the crime statistics on the property of the institution for the preceding academic year. A copy of the report may be obtained from the Dean of Administration by request.

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 a Gateway computer science class
- 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, Long Wharf Campus (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, and Drug and Alcohol Recovery Counselor programs offered at the North Haven Campus.

Procedures

A student will not be enrolled in a degree or certificate program until the application file is complete. The following steps must be taken to ensure a complete application file:

1. Please obtain an application form from the Admissions Office at the Long Wharf Campus, 60 Sargent Drive, New Haven, CT 06511 (203) 285-2010, the North Haven Campus, 88 Bassett Road, North Haven, CT 06473, or from our website: www.gwcc.commnet.edu
2. High school students must complete the application and give it to a high school guidance counselor. High school graduates must mail the application directly to the Admissions Office. Holders of a State Equivalency Diploma (GED) must mail the application directly to the Admissions Office, along with a copy of their diploma or transcript of test results.
3. An official copy of a student's high school transcript or high school diploma must be sent to the Admissions Office at 60 Sargent Drive, New Haven, CT 06511. Upon graduation, a final transcript must be forwarded to the Admissions Office confirming the date of graduation. Upon receipt of an official college transcript indicating that a Bachelor's degree (or higher) has been conferred, the high school requirement will be waived. Acceptance into a degree program will not be official until the Admissions Office receives the final transcript.
4. 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 evaluation will be performed for degree or certificate students only.
5. 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.
6. After being admitted, all 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 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), CLEP, Dantes, or Advanced Placement results – verifying that they have successfully completed a college-level mathematics and/or English course.

ADMISSION 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:

1. 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.
2. 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.

ADVANCED PLACEMENT

Gateway Community College accepts for advanced placement high school students who demonstrate sufficient scholastic ability and who are approved by the high school principal or his/her designated representative, with the understanding that no additional general fund class sections will be created to accommodate them except as approved by the board.

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 OPTION

A student readmitted to Gateway Community College after an absence of four or more consecutive semesters may choose to return without the handicap of a poor prior academic record (below 2.0). If the student wishes to invoke the Fresh Start Option, credit is granted for all courses passed with grades of "P" and "C" or above completed at the College. The student receives no grade for courses with a grade below "C." All courses and grades remain on the student's record with the additional notation of "Fresh Start Option invoked."

The student may use the Fresh Start Option only once and only at the time of readmission or during the first semester of readmission. Students readmitted prior to fall 1994 and who have not yet used the Fresh Start Option are still eligible to use this option. Gateway Community College is an open admission/selective placement college, and the Fresh Start Option does not preclude future readmission. Applications for the Fresh Start Option should be made to the Counseling Department; recommendations must be forwarded to the Registrar.

HIGH SCHOOL PARTNERSHIP PROGRAM

This is a cooperative program between Gateway Community College and participating area school districts in which high school students may earn college credit for college-level courses in selected fields. Students participating in the pre-college program must meet the same standards and proficiencies expected of students enrolled at the College.

INTERNATIONAL STUDENTS

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 1 for the fall semester and by November 1 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 STUDENT

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 Records 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.

TRANSFER INTO GATEWAY COMMUNITY COLLEGE

At all community colleges, degree credit shall be granted for credit courses completed at all institutions within the Connecticut state system of higher education and at all other accredited collegiate institutions in accordance with the following:

1. Degree credit shall be granted for all credit courses which are applicable to the objectives of, or equivalent to the course requirements of, the curriculum in which the transferring student enrolls. Credit work which is not applicable or equivalent to curriculum requirements shall be accepted for credit at the discretion of the college. Degree 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. Credit courses completed with a grade of "Pass" (P) shall be accepted only for degree credit; the "Pass" grade assigned by other institutions shall not be included in computation of student grade point averages.
3. Degree credit shall be granted for credit courses completed with a passing letter grade of "C" or better. 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.
4. At the option of a transfer student, degree credit shall be granted for credit courses completed at other institutions with a grade of "D" subject to the following conditions:
 - a. If the student's grade point average at the time of transfer is at least 2.0, the student shall be considered in good academic standing, and letter grades assigned by other institutions to courses for which credit is granted by the community college shall not be recorded nor included in computations of the student's grade point average at the community college.
 - b. If the student's grade point average at the time of transfer is less than 2.0, the letter grade of "D" assigned by another institution to each course for which credit is granted by the community college shall be recorded on the student's transcript and included in computations of the student's grade point average, and the student's academic standing at the community college shall be determined accordingly.
5. Notwithstanding the number of degree 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 through coursework at the college awarding the degree.
6. When a student seeks transfer credit for technical specialty courses into an ABET-accredited program, such technical specialty credits should be from ABET-accredited programs. In the case of a request for transfer credit for technical specialty courses from a non-ABET-accredited program, the college shall provide appropriate means for the validation of the student's competency in the technical specialty course areas.
7. Selected programs, such as Nursing, have additional transfer requirements.
8. This policy shall appear in all college catalogs.

REGISTRATION

Long Wharf Campus (203) 285-2020
North Haven Campus (203) 285-2304

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 Records Office, and online at: <http://www.gwcc.commnet.edu> or <http://www.online.commnet.edu>. Courses are open to all Gateway Community College students, students from other colleges, and any interested adults. For further information, contact the Office of Continuing Education / Community Services at (203) 285-2502.

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.

TUITION AND FEES

Tuition and fees are established by the Board of Trustees of Community-Technical Colleges and are subject to change without notice. Rates for the 2005-2006 academic year are as follows. **Please refer to the printed college schedule when available for the 2007-2008 Tuition and Fee rates.**

Tuition

Full-time Student (12 semester hours or more per semester)	
Connecticut Resident	\$ 1,116.00
Non-resident	3,348.00
New England Regional Student Program	1,674.00
Part-time Student (Per Semester hour through 11 hours)	
Connecticut Resident	93.00
Non-resident	279.00
New England Regional Student Program	139.50
Summer Sessions/Winter Intersession	105.00

Fees

Full time Student (12 semester hours or more per semester)

Student Activity Fee: \$ 10.00

College Service Fee:

Connecticut Resident	\$ 142.00
Non-resident	426.00
New England Regional Student Program	213.00
Summer 2005	137.00
Winter 2005 Intersession	142.00
Extension Program	142.00

Part-time Student (Per Semester hour through 11 hours)

Student Activity Fee: \$ 5.00

College Service Fee:

Connecticut Resident	1 Credit	\$ 50.50
	2 Credits	53.00
	3 Credits	55.00
	4 Credits	58.00
	5-11 Credits	10.50 ea add'l credit

Non-resident	1 Credit	151.50
	2 Credits	159.00
	3 Credits	166.50
	4 Credits	174.00
	5-11 Credits	31.50 ea add'l credit

New England Regional Student Program	1 Credit	75.75
	2 Credits	79.50
	3 Credits	83.25
	4 Credits	87.00
	5-11 Credits	15.75 ea add'l credit

Summer 2005	1 Credit	48.25
	2 Credits	50.50
	3 Credits	52.75
	4 Credits	55.00
	5-12 Credits	10.25 ea add'l credit

Extension Program	1 Credit	50.50
	2 Credits	53.00
	3 Credits	55.50
	4 Credits	58.00
	5-11 Credits	10.25 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
Graduation Fee (non-refundable and payable in the semester student expects to graduate)	37.00
Transcript Fee	3.00
Program Enrollment	20.00
Installment Fee	25.00
Replacement Lost ID	1.00

Mandatory Usage Fees

Laboratory Course Fee (per registration in designated lab course)	\$ 55.00
Studio Course Fee (per registration in designated studio course)	61.00
Clinical Program Fee Level 1 (charged each fall & spring to students matriculated in Allied Health and Nursing programs)	192.00
Excess Credits Tuition Charge (applies when total registered credits exceed 17 for the semester)	100.00

Tuition and Fee Notes

College Service, Student Activity, Clinical Program, Installment Plan, Application and Graduation fees are not refundable. Refer to refund policies for the refunding rules associated with other charges.

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 but are exempt from student activity fees.

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

PAYMENT POLICIES

Long Wharf Cashier Windows: (203) 285-2009
Hours: 8:30 a.m. to 4:00 p.m. Weekdays
8:30 to 7:00 p.m. during scheduled late night registrations

Drop boxes for non-cash payments are also available adjacent to the Cashiers Office on either campus. The college accepts checks, VISA and MasterCard, cash (Long Wharf Campus only). Payments are also accepted online at www.online.commnet.edu.

When to Pay: Payment is due at registration. Students who register on the web will not receive an additional invoice from the college. During early and regular registration periods classes are automatically dropped without notice after a three (3) business day payment grace period. There is no grace period for students who register the week before the start of the term or during Add/Drop registration.

Failure to pay accounts in full by the specified dates will result in the College placing a hold on the student's account. This hold will bar the student from transcript and registration services. Furthermore, the account will be turned over to a collection agency and the student may also be held liable for the cost of collection.

Fall/Spring Early Registration Option: To reserve your classes until the Tuition due date, just pay your nonrefundable fees when you register. You must pay your balance by the tuition due date or your classes will be dropped without notice and your non-refundable fee deposit will be forfeited.

Financial Aid Payments: Authorized financial aid must be applied to the students' account in accordance with the schedule above. The student is responsible for full payment of his/her account if the financial aid is not awarded or is rescinded. Financial Aid authorizations can be viewed on the Web at www.online.commnet.edu. Student installment plan (see Tuition Installment Payment Plan section for more details).

Third Party Voucher Payments: Vouchers must be filed at the Long Wharf Cashier's Window in accordance with the schedule above. You are responsible for full payment of your account if the voucher is not honored.

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.

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. This plan cannot be used to finance charges associated with courses offered through our Continuing Education Division. The College defines accounts in good standing to be accounts which are paid in full for prior semesters in a timely fashion. To enroll see a Cashier at the Long Wharf Campus.

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:

- Students who change their course load after enrolling in a payment plan are responsible for notifying the Long Wharf Cashier's Office of the change.
 - Students who add a class or classes must amend their payment plan or pay in full in accordance with the payment policies.
 - Students who drop a class or classes must formally withdraw in the Records Office in accordance with the published refund policy dates. Please note – depending on the date of withdrawal, the amount due on the installment plan may not be affected. Please refer to the College's Refund Policies or speak with a Cashier for more details.

TUITION AND FEE WAIVERS

Senior Citizen Waiver: On a space available basis, individuals 62 years of age and older who register during the special registration session held at the end of the regular registration period are eligible for a waiver of tuition, general and application fees. Senior Citizens are required to pay all Lab and Studio fees at registration. Senior Citizen waivers are not granted for classes offered through our Corporate and Continuing Education Division or for special fees.

Veteran Waiver: CGS 27-103 entitles a waiver of tuition for honorably discharged veterans who have been a Connecticut resident for at least one year 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. *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 the written Waiver from their Commanding Officer 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: (1) a Connecticut resident, (b) certified by the Adjutant General or his/her designee as a member in good standing of the Guard, (c) 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.

Dependant Children of POWs and MIAs: Under CGS section 10a-77, tuition is waived for any dependant 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, and 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: All refunds are issued in the form of a check. Please allow up to 45 days for receipt of refund.

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. If the student does not select a replacement course, a refund will be sent via 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:

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

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 withdraws from classes up to the business day before the start of the term a 100% refund of Tuition, Laboratory and Studio Course Fees will be granted.
- If the student completely withdraws from classes within the first fourteen (14) calendar days of the term 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 term a **NO** refund of Tuition, Laboratory and Studio Course Fees will be granted.
- If the student partially withdraws from classes during the first 14 calendar days of the term 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 related to Corporate and Continuing Education courses will be granted to students who officially withdraw in the Records Office up to the business day prior to the first day of class. No refund will be granted once the class has met.

Exceptions: Regardless of circumstance, refund requests can not be considered after the 14th calendar day of the term or after the first class meeting for classes offered through the Division of Corporate and Continuing Education Division. Any requests for special consideration of the College's refund Policy must be submitted, in writing, to the Dean of Administration. Requests must include a detailed description of the relevant circumstances. Circumstances that will not be considered are: changes in job, normal illness, poor decision or change of mind by the student regarding course selection, or dissatisfaction with course content.

FINANCIAL AID

Long Wharf Campus (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, college loans, work-study, and scholarships. Awards may come from one or any combination of the following four sources. The exact form of the total award will be determined only after careful evaluation of the student's individual situation. Financial need, academic performance, and resources available to the student are all considered.

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 Financial Aid eligibility, 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. Documentation of income for the preceding year is also required if selected for verification. (See Electronic Filing Instructions on the Gateway Home Page at: <http://www.gwcc.commnet.edu>.) You may also visit: <http://www.online.commnet.edu> for additional information about Financial Aid Services.

All males born after January 1, 1960, must be registered with the Selective Service System to be eligible for Title IV, Student Financial Aid.

TYPES OF FINANCIAL AID

Federal Pell Grant Program

This federal aid program is designed to provide assistance to those who need it in order to attend post-high school educational institutions. Pell Grants are intended to be the "base" of a financial aid package and may be combined with other forms of aid in order to attempt to meet the full cost of education.

Federal Supplemental Educational Opportunity Grants

This program is available to students who demonstrate financial need. Students may receive grants in this category, particularly if they are eligible for a Pell Grant. Students may continue to receive this grant along with other aid as long as they remain in good academic standing and continue to require aid.

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 be either on the college campus or in a public and/or private non-profit organization. Students may work a maximum of 15 hours a week while attending classes. If funds are available, eligible students may work a maximum of 35 hours during vacation periods. Students interested in this program should contact the Financial Aid Office.

Federal Stafford Loan Program

This is a federally subsidized loan program available to financially eligible students. The annual interest rate is variable, with the maximum set at 8.25 percent. It may be adjusted each year on July 1. As a result, the interest may change annually, but it will never exceed 8.25%. After reviewing the actual interest rate, the student may cancel or reduce any loan obtained under his/her MPN (Master Promissory Note) in accordance with the "Loan Cancellation" procedures.

The borrower must attend an entrance loan interview before receiving a loan. Afterwards, an electronic loan application will be filed with CSLF (Connecticut Student Loan Foundation). The student will receive a Master Promissory Note via Mail. This must be signed and returned to the guaranty agency, CSLF. The borrower must have an exit loan interview before the borrower leaves the school.

Unsubsidized Federal Stafford Loan

This loan program is available for students who are ineligible to receive a subsidized Federal Stafford Loan. Interest rates and loan limits are the same as the Federal Stafford Loan program, payable while in school and during deferment periods. Interest may be deferred but will be added to the principal, increasing the repayment amount.

Federal Plus Loans

Parent Loans for Undergraduates (PLUS) are for parents who want to help pay for their children's education. PLUS enables parents to borrow up to the "cost of education," minus other aid, for each child who is enrolled at least half time and is a dependent student. The interest rate for Federal PLUS loans first disbursed on or after July 1st, 1994, will be variable, but not higher than 9%. The repayment period begins within 60 days after the final loan disbursement. Unlike the Federal Stafford Loan, financial need is not a factor; however, Federal PLUS borrowers may have to undergo a credit analysis.

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 in 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 upon 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 upon financial need and available funds.

Family Education Loan Program (FELP)

This program was created to help students and their families meet the cost of attending college by reducing the financial burden of borrowing. FELP loans are available, with no application fee, to help undergraduate, graduate, and professional students pay their current or prior year's educational expenses. To be eligible for a FELP loan, a student must be enrolled at least half-time in an accredited non-profit college or university located in Connecticut or be a Connecticut resident enrolled at least half-time at an accredited non-profit college or university elsewhere in the United States or its possessions. Students and their families may borrow, depending upon eligibility, certification by the college financial aid administrator, and credit worthiness. These loans are administered by the Connecticut Higher Education Supplemental Loan Authority (CHESLA).

LOAN ORIGATION FEES

Lenders are authorized to charge student borrowers an origination fee of 3%, which will be deducted proportionately from each loan disbursement. Revenue from the fee is passed on to the federal government to help reduce the government's cost for these loans. A lender may also collect an insurance premium of up to 1% of the loan principal. This premium will also be deducted proportionately from each disbursement. The origination fee on PLUS is 3%, plus an insurance premium of up to 1%.

RETURN OF TITLE IV FUNDS

The College maintains a fair and equitable refund policy, as mandated by US Department of Education regulations. These refund and repayment rules only apply to students who withdraw completely and/or otherwise fail to complete the current period of enrollment.

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;
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 Title IV eligibility by returning the amount in 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.

Students (or parent(s), if a Federal PLUS loan) must return the unearned funds for which they are responsible to loan programs in accordance with the terms of the loan and to grant programs as an overpayment. Grant overpayments are subject to repayment arrangements satisfactory to the school or to overpayment collection procedures prescribed by the Secretary of the Department of Education.

ORDER OF RETURN OF STUDENT FINANCIAL AID PROGRAM FUNDS

Funds credited to outstanding loan balances for the payment period of 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. Unsubsidized Federal Stafford loans
2. Subsidized Federal Stafford loans
3. Unsubsidized Direct Stafford loans (other than PLUS loans)
4. Subsidized Direct Stafford loans
5. Perkins loans
6. Federal PLUS loans
7. Direct PLUS loans
8. Federal Pell Grants for the payment period for which a return of funds is required.
9. Federal Supplemental Educational Opportunity Grants (FSEOG) for the payment period for which a return of funds is required.

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 receipt of grades.

WITHDRAWAL FROM SCHOOL

In general, if a recipient of Student Financial Aid Program assistance 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

THE PAUL JONES SCHOLARSHIP

This merit-based scholarship is funded by an educational trust established under the will of Douglas P. Jones and administered by the Meriden Trust and Safety Deposit Co. The main purpose of this trust is to train and educate health care personnel and to use this scholarship to induce as many people as possible to pursue careers in the health care field. The applicant requirements are as follows:

1. The student must be enrolling or enrolled in a program to educate and/or train nurses, licensed practical nurses, nurse's aides, medical and technical assistants, laboratory technicians, and any other personnel whose jobs and professions are related to the promotion, preservation, or restoration of the health of human beings;
2. The applicant must be a graduate of a Connecticut high school and currently reside in Connecticut. This requirement may be waived if the applicant has been a long-time resident of Connecticut; any exceptions will require the approval of the trustees;
3. The applicant must be enrolling or enrolled as a full-time student. The trustees must approve any exceptions to this requirement;
4. The applicant must meet the entrance requirements set by the school and maintain the minimum grade average required to continue as a full-time student.

Recipients are selected by the directors of the Allied Health and Nursing programs and the Director of Financial Aid upon review of academic status and full-time enrollment status in their respective programs of study.

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 or 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 to students for use in the following academic year. The GCC Foundation scholarship brochure (available in February) lists the various scholarships available and includes an application form. Brochures may be obtained from the Financial Aid or Counseling offices and are available at student information centers at both campuses. For more information, call (203) 285-2296.

SCHOLARSHIPS INCLUDE:

Philomena M. Abell Nursing
Alumni Association
Kelsie Anderson
Anthem Blue Cross and Blue Shield
Anthem Blue Cross and Blue Shield Nursing
Anderson Atkinson
Sandra Broga-Norton
Michael Cannella
CASA/SME Liberty Rock Chapter
CT Association of Addiction Professionals
Frederick DeLuca Foundation
Todd Dogolo
Mark Fusco Foundation
GCC Foundation Directors
Allen Hadelman
Hamden Rotary
Milford Lions
Michael Murphy
Nightingale
Francis Noonan
North Haven Rotary
Phi Theta Kappa
George O. Pranspill
R & B Enterprises
RWA: Kathryn M. Bevan Memorial
RWA Sophomore
SBC
STROBE
West Haven Rotary
Norman Wuestefeld
Villa Bianca
Yale-New Haven Hospital
Yale University

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

SEMESTER HONORS

There shall be a Dean's List of students, both full- and part-time, who earn a semester grade point average of 3.4 or higher. Part-time students who pursue three (3) credits or more in a semester shall be eligible for semester honors. A course Withdrawal or Incomplete shall make the student ineligible for Dean's List recognition that semester.

GRADUATION HONORS

Student 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.

STATEMENT ON 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 probation and suspension policy. A QPA of 1.5 and satisfactory completion of fifty percent of the courses attempted (this phrase means actual continued enrollment beyond the add/drop period) will be the minimum standards for good standing.

ACADEMIC STANDARDS

A student with a GPA of 2.0 or higher is considered in Good Standing.

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

12-24 credits with less than 1.99 GPA

Academic Warning

24.01+ credits with 1.5 – 1.99 GPA

Academic Warning

24.01+ credits with 1.3 – 1.499 GPA

Academic restriction to 8 credits maximum

24.01+ credits with less than 1.2 GPA

Academic restriction to a required course of 2 credits maximum

Only students in Good Standing may register as full-time.

COURSE LOAD

A full course load normally consists of four to five courses, 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 semesters may, provided they have maintained a GPA of 3.0 or better during the preceding semester, register for one additional course upon the recommendation of their advisor and the approval of the Dean of Students. Additional fees may apply.

COURSE SUBSTITUTION

The substitution of a course must be approved by the appropriate department chairperson/program coordinator or the Dean of Learning. Students must complete a Course Substitution Form available in the Records and Counseling offices.

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
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
F	0.0

(Effective Fall 2000)

Temporary Grade:

I	Incomplete
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Administrative Transcript Notations:

AU	Audit
M	Maintaining Progress
N	No Grade
P	Pass
TR	Transfer
W	Withdrawal

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.

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.

“M” - Maintaining Progress

An administrative transcript notation used only for development courses to indicate that the student is maintaining progress but not at the usual rate. It may be given to a student for a course only twice.

“N” - No Grade

An administrative transcript notation for any situation where there is no grade reported at the end of the traditional semester (i.e., no grade received from a faculty member, courses in progress, or no basis for a grade).

The “N” grade is used only when a student has failed to attend class for an extended period and/or has failed to complete any of the course objectives, thereby preventing an evaluation of the student's performance. The “N” grade should not be 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 (QPA). 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.

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 Dean of Learning's office for final approval. The student must also obtain an Add slip from the Records Office or the Counseling Office, 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.

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. A CLEP service fee will be charged to evaluate the transcript.

Assessment by Examination

Qualified faculty may develop and administer individual tests to determine whether a student should 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 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 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 Dean of Learning, 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, regardless of the number of credits assessed. Contact the Director of Career Services for more information and assistance in beginning a portfolio.

GRADUATION POLICY

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.

- I. Students must complete a preliminary evaluation at the Counseling Office before paying the *non-refundable* graduation fee. An official evaluation is then conducted by the Records Office. Students MUST submit a graduation application by March 15 of the year in which they expect to graduate.
- II. The Counseling Office 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 evaluation after earning nine (9) credits or completing one half (1/2) of the requirements. Evaluations should be completed before paying the *non-refundable* graduation fee.
- III. A candidate for graduation will be evaluated under the one 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.**
- IV. To receive an associate degree, a student must (1) have a cumulative quality point average of at least 2.0 (2) have a minimum of 60 semester hours of credit, (3) successfully complete the required and elective courses as designated by the curriculum, and (4) fulfill 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 of Transcript form in the Records Office. The form may be downloaded from the www.gwcc.commnet.edu website. A fee of \$3.00 will be required for each official transcript. **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.

Upon successful completion of their first two years of study at GCC, College of Technology students can seamlessly transfer to either the UConn School of Engineering or the CCSU School of Technology.

Students who are interested in pursuing a four-year degree in engineering or technology are encouraged to contact the College of Technology Pathway Coordinator, Professor Robert Tremblay, at (203) 285-2185.

CONNECTICUT STATE UNIVERSITY GUARANTEED ADMISSION

Under the policies of their respective boards, Associate in Art, 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.

Under an agreement with the University of Connecticut, GCC graduates with a grade point average of 2.5 or higher will be admitted to the College of Arts and Sciences; graduates with an average below 2.5 may apply for special consideration. With few exceptions, courses will be accepted and applied to the bachelor's degree at UConn. A transfer articulation agreement exists with the School of Business. Please see a counselor for more information.

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

CORPORATE AND CONTINUING EDUCATION

The Corporate and Continuing Education Department is comprised of three separate and distinct areas: Business and Industry Services, Continuing Education / Community Services, and the Workforce Development Institute.

BUSINESS AND INDUSTRY SERVICES

North Haven Campus - Room 100

Director (203) 285-2310

Business and Industry Services puts the resources, facilities, expertise, and state-of-the-art technology of Gateway Community College at the service of area businesses. This office meets the needs of new and established businesses with a full range of comprehensive, cost-effective, and convenient education training services. The office provides affordable learning opportunities to professional groups, labor organizations, state agencies, and other educational institutions. The office can help design training programs that receive state and federal funding or finances from other sources that support business development.

Additionally, Business and Industry Services has the flexibility to cater to the specific needs of business. Workshops and seminars, even courses for college credit, can be planned around business schedules and can be conducted at the business or at the College. Program content is tailored to address specific questions and problems and can be adapted to accommodate 20 to 100 employees. A few examples of special programs designed for some of Connecticut's leading employers are listed below:

- A customized English course for non-English speakers prepared 45 employees on three shifts at a medical supply company involving a new integrated manufacturing process.

- A computer-integrated manufacturing laboratory serves both as part of a degree program in the College's Manufacturing Engineering Technology program and as a training site for IBM users in business and industry.

- Credit courses in medical terminology and medical transcription were held for employees of a large Connecticut hospital.

- A large technical manufacturer used GCC to provide assessment, basic math, and literacy courses for employees who needed to improve their skills to meet the demands of a corporate-wide quality improvement project.

- Production employees laid off by plant closings were retrained for new careers in office automation.

Business and Industry Services helps businesses design and deliver complete programs and provides the resources required to meet those needs. Some programs include:

- Customized training and retraining
- Needs assessments, with related research and analysis
- Basic literacy and math skills
- Basic and advanced computer training
- Manufacturing training in CAD, CNC, CAM, 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

All Business and Industry Services courses, both credit and credit-free, may be offered on-site at the customer's location if logistically and technically feasible.

CONTINUING EDUCATION AND COMMUNITY SERVICES

North Haven Campus - Room 120

Telephone (203) 285-2502

The Continuing Education and Community Services office provides affordable learning opportunities in a continuing process of education for individuals, business employees, members of community organizations, and others.

Some non-credit offerings, such as motorcycle riding courses, are designed as recreational and leisure activities. Other offerings provide such specific employment skills as computer literacy, Emergency Medical Technician (EMT), and phlebotomy training.

The College also offers a series of courses that provide professional assistance in various areas of small business development and management. These courses are designed for individuals either currently engaged in small business management or planning to start a small business.

The Connecticut Department of Education has approved GCC as a site for Continuing Teacher Certification and Praxis preparation programs.

WORKFORCE DEVELOPMENT INSTITUTE

North Haven Campus - Room 100

Coordinator (203) 285-2302

The Workforce Development Institute offers non-credit certificate training programs which provide new occupational skills to dislocated workers and those who need updated or additional workplace skills. These programs have been approved by local workforce development 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. They are offered in modules, with rolling start dates to accommodate student needs. Classes are held in the evening and weekends to accommodate the needs of working adults. These courses are open to the public.

Training is provided in a variety of career tracks including Medical Billing Associate, Bookkeeping, Desktop Publishing for the Graphics Industry, Website Development, Web Design, Precision Manufacturing (including CNC Programming), AutoCAD, Business Professional Computer Skills, COMPTIA A+, Network + and Security + Certification, .NET Programming and Business and Technical Writing.

The Workforce Development Institute also creates 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. 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

North Haven Campus – Room 102E

Director (203) 285-2505

Step Forward is a non-credit certificate program designed to teach students ages 18-21 with learning challenges, the skills needed to be prepared and productive in today's workforce. This innovative program blends classroom instruction with practical workplace experience. Classroom learning takes place in an age-appropriate environment at Gateway Community 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

Long Wharf Campus	(203) 865-5614	0809mgr@fhey.follett.com
North Haven Campus	(203) 239-3049	0823mgr@fhey.follett.com
Long Wharf and North Haven 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.

CAFETERIA

While the College is in session, the cafeteria on the Long Wharf Campus is open Monday through Thursday from 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. The North Haven Campus cafeteria hours are Monday through Friday 8:00 a.m. to 1:00 p.m. and 5:00 p.m. to 7:00 p.m. Special hours are posted when classes are not in session. Hot and cold sandwiches, salads, side dishes, soups, and soda are available at the cafeterias. 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, 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.

COLLEGE WRITING CENTER

Long Wharf Campus - Room 142

Telephone (203) 285-2245

The College Writing Center (CWC), located on the Long Wharf Campus, is a place where students of all abilities can improve their writing and reading skills. The CWC, under the guidance of master tutors, offers personal tutorials and writing workshops on such topics as summaries, critiques, essays, research papers, technical reports, literature interpretation, proofreading techniques, topic-thesis development, and communications presentations. Students are welcome on a "walk-in" basis or by appointment. For information on the center's hours, please call.

COMPUTING RESOURCES

Computer-equipped classrooms and laboratories for computer science, word processing, and related courses and workshops are located conveniently on both campuses. A wide variety of popular software is available for use at these facilities. Personal computers on both campuses are linked via a Windows 2000-2003 network operating system and supported by Intel servers.

The North Haven Campus supports four separate, general-use PC classrooms/laboratories. Available programming languages include BASIC, COBOL, Assembler, C, C++ and Visual Basic.net. Furthermore, many of the technical programs incorporate computer use in specialty laboratories, including a lab devoted to computer repair and assembly. There is also a new state-of-the-art Macintosh lab.

The Long Wharf Campus offers program-specific laboratories equipped with networked PCs for Business Office Technology, Computer Science and other courses, plus one general-purpose laboratory equipped with personal computers.

EARLY LEARNING CENTER (CHILD CARE)

Long Wharf Campus (203) 285-2131

Students with three- to five-year-old children can benefit from enrolling their child in convenient, on-site childcare provided at the Long Wharf Campus. The Early Learning Center, located on the second floor of the College, is a fully licensed, nationally accredited child care program for young children and is 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; it is centered around 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 at Gateway Community College and Southern Connecticut State University is \$90.00 per week per child for full time care; \$58.00 per week per child for Monday, Wednesday, and Friday; and \$42.00 per week per child for Tuesday and Thursday. In order to qualify for student rates, a student must be enrolled for a minimum of three credits. Community rates for non-students are \$145.00 per week per child for full-time care; \$100.00 per week per child for Monday, Wednesday, and Friday; and \$70.00 per week per child for Tuesday and Thursday.

For more information, contact the Director at (203) 285-2132.

EDUCATIONAL TECHNOLOGIES

Long Wharf Campus (203) 285-2268

North Haven Campus (203) 285-2508

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

LIBRARIES

Long Wharf Campus (203) 285-2057

North Haven Campus (203) 285-2340

The libraries provide a variety of resources that support and supplement the curriculum of the College, serving as a source of personal enrichment for all users. Resources include books, periodicals, pamphlets, audio and videotapes, DVDs, laser disks, computer software, films, slide sets, microforms, and electronic information sources. Internet access is available in both libraries. The Social Science/Humanities strengths of the Long Wharf branch and the Technical/Allied Health strengths of the North Haven branch complement each other. The libraries house special collections, including the African American History Collection, the Early Childhood Education Model Collection, and the Small Business Resource Center. A complete listing of both campus collections is available through the online public access catalog. The library maintains membership in the "LIBRIS" consortium of Connecticut Community College libraries. 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 library cards or bar-coded student identification cards, issued on either campus, are honored at both locations. Materials are sent from one library to another on a daily basis. The normal circulation period for books is three weeks. Renewals can be arranged in person or by phone. The libraries do not charge fines for materials returned late. 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, it may result in a loss of borrowing privileges, withholding of diplomas, denial of transcript requests to other institutions, and refusal of re-registration.

Electronic Resources

The library maintains web pages linked to the College website, offering links to search engines, internet resources, library information, and the online catalog. A number of online databases supporting a broad spectrum of programs and subjects may be accessed at the College through the "Research on Campus" page of the website. Off-campus access is available through the "Research from home" page. The college library website address is:

www.gwcc.commnet.edu/libwebpage.html

Service Desks

The Service Desks at both library branches are central points for all library functions, including:

Obtaining library cards (Proof of registration is required for students)

Circulation and return of all materials

Reference assistance

Closed reserve materials

Video/DVD collections

Interlibrary loan services

Library instruction booking

A Skilled Library Staff

Library staff members provide information literacy instruction in every academic discipline. Specialized introduction to specific resources and/or electronic searching techniques for individuals, small groups, or classes may be arranged at the service desks in either location. Staff on both campuses will be happy to assist all users with information needs. Come in and browse!

MATHEMATICS AND SCIENCE CENTER

North Haven Campus - Room 004

The Mathematics/Science Center provides students with tutorial and technological assistance in math and science. A staff of master tutors offers this academic assistance on a walk-in basis and works with instructors to help students with more complex projects. The center also helps students to improve their use of technology, including graphing calculators and computer software in mathematics and science. Call Miguel A. Garcia, Mathematics Program Coordinator, at (203) 285-2358 for more information.

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 Kelsey at (203) 285-2151 (kkelsey@gwcc.commnet.edu).

WOMEN'S CENTER

Long Wharf Campus - Room 107

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 SERVICES

CAREER SERVICES

Long Wharf Campus - Room 101 (203) 285-2144

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. Services available on both campuses include:

Career Counseling

Career counseling is available to prospective or current students, including those in the General Studies (Exploratory) 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. A one-credit course (HDV 103) is offered every semester to help students develop their career plans.

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

Long Wharf Campus (203) 285-2217

North Haven Campus (203) 285-2348

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 ADA 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.

THE OFFICE OF COLLEGE LIFE/STUDENT ACTIVITIES

Long Wharf Campus - Room 138

Telephone (203) 285-2208

To compliment formal academic life, the Office of College Life coordinates a wide variety of social, cultural, recreational, leadership and special activities that enrich both the College and community. Some activities are primarily for students, but many are open to the public. Student activity fees fund the student activities program within the framework of a yearly budget approved by the Student Government Association.

Special Events

Gateway Community College aims to make each student's experience culturally, as well as academically, rewarding. Throughout the year, the College's clubs and organizations, along with the student government, sponsor a variety of cultural programs covering a wide range of the performing arts. Nationally renowned authors, artists, speakers, and performers have appeared on campus.

Special philanthropic events are held on both campuses throughout the year to benefit the community. These include Red Cross blood drives, free blood pressure screenings, food drives, wellness expositions, seasonal events, and more.

Leadership Development

The Office of College Life presents a variety of programs designed to enhance the leadership development of our student leaders. Through a formal leadership series, national leadership conference participation and a variety of other means, students will have the opportunity to develop and augment their own personal leadership skills.

Athletics

Gateway Community College is a member of the National Junior College Athletic Association (Region XXI) and abides by its rules of eligibility and code of ethics. Intercollegiate team sports include men's and women's basketball and Men's Baseball. The North Haven Campus facilities also include a fitness center used for recreational programs. For information on athletic programs, contact the Acting Director of Athletics located in the Office of College Life at (203) 285-2208.

Student Clubs and Organizations

The Student Government Association recognizes numerous clubs that are formed by special interest student 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: Academic Honors Club, African-American Student Union, Art Club, Community Service Club, Computer and Gaming Club, DARC Club (Drugs, Alcohol, and Recovery), Drama Club, Early Childhood Association, Film Society, Gospel Chorus, Hospitality Club, Intramural Club, Institute of Electrical Electronics Engineers Club, International Student Association, Multicultural Club, Organization of Latin American Students (OLAS), Poetry and Music Club, Pride Student Newspaper, Psychology Club, Radiology Club, Math/Science Club, the Sages, Students In Free Enterprise (SIFE), Student Nursing Association of Gateway Community College, Tennis Club, VICA, Gateway Racing Team, Women's Forum, and the Writers' Co-op.

Honor Societies

Students are selected on the basis of outstanding scholarship for membership in Phi Theta Kappa, the national community college honor society; Tau Alpha Pi, the national engineering technology honor society; Psi Beta, the national two-year college psychology honor society; and Alpha Sigma Lambda, the honor society for part-time students.

Identification Card

Each student is required to obtain a personal photo identification (ID) card. The ID card must be worn when on campus, presented when requested by authorized personnel, when borrowing books from the library, and for admission to college-sponsored activities. In order to obtain an ID Card, the student must present proof of payment along with a photo ID at the time the photograph is to be taken. Please contact the Office of College Life for more information at (203) 285-2208.

Professional Affiliations

The College sponsors student chapters of the following professional societies: Institute of Electrical and Electronics Engineers, National Association of Accountants, Society of Biomedical Equipment Technicians, and Society of Manufacturing Engineers.

Student Government

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 assists the Office of College Life in 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.

COUNSELING

Long Wharf Campus (203) 285-2090

North Haven Campus (203) 285-2316

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. Furthermore, Counseling Office staff are able to refer students to appropriate community resources. Workshops, support groups, and guest speakers may also be offered.

STUDENT DISABILITIES SERVICES

Long Wharf Campus (203) 285-2231

North Haven Campus (203) 285-2317

Learning Disability Specialist: Toni Page

email: tpage@gwcc.commnet.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.

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

Due to the individualized nature of planning for and providing accommodations, it is essential that each eligible student meet with the Learning Disabilities Specialist to discuss his/her specific needs prior to the beginning of **each** semester. The process of determining eligibility and implementing services requires a considerable amount of time. Students are advised to provide the SDS office with as much lead time as possible in order to ensure accommodations are in place for when they are needed.

Insurance Coverage

All enrolled students are automatically covered under the School Time Only Accident Insurance Plan that covers accidents in school-related activities, except intercollegiate athletics. Students may purchase additional accident and/or health insurance (Optional 24-Hour Accident and Sickness Insurance Plan) at group rates and are eligible to enroll dependents under the Optional Plan. Athletic programs have their own insurance coverage. Students enrolled full-time in the fall semester are insured from September 1 to December 31; students enrolled full-time in the spring semester are insured from January 1 until August 31. A detailed brochure and additional information on insurance coverage is available in the SDS Office.

All on-campus accidents should be reported to the SDS Office.

VETERANS' BENEFITS

Long Wharf Campus - Room 101

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 23), 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

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:

- Competence in written and oral communication in English
- Ability for scientific and quantitative reasoning, for critical analysis and logical thinking
- Knowledge and understanding of scientific, historical, and social phenomena
- Knowledge and appreciation of aesthetics and ethics
- Capability for continuing learning

Gateway Community College requires that at least one-third of all associate degree programs include English Composition (ENG* 101), Fundamentals of Human Communication (COM 101), 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 satisfies the College's Computer Literacy requirement

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 an appropriate 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.

Computer 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.

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 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 (BOT* 218), Spreadsheet Applications (BOT* 216), 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, Literature, Music, Philosophy, Reading (college-level), or Sign Language

Mathematics

Mathematics (college-level)

Natural Sciences

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

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, Aviation Maintenance Technology, Environmental Science and Toxicology, Fire Technology and Administration, Water Management, Wastewater Management

Liberal Arts

Any courses offered through the departments listed above under Fine Arts, Humanities, Mathematics, Natural Sciences, and/or Social Science

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 session.

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 AND CERTIFICATE PROGRAMS

AS - Associate Degree

C - Certificate

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ART

Studio Art (AS)	67
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AC Delco Technical Service Education (C)	70
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BOT: Administrative Assistant (C)	85
BOT: Administrative Assistant Foreign Language Option (AS)	86
BOT: Customer Service Technology (C)	86
BOT: Legal Administrative Assistant Option (AS)	87
BOT: Medical Administrative Assistant Option (AS)	88
BOT: Medical Administrative Assistant (C)	88
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COLLEGE OF TECHNOLOGY

Connecticut College Of Technology – Engineering Science (AS)	
Pathways to UCONN, UNH, Univ of Htfd., & Fairfield U.	92
Connecticut College Of Technology – Technological Studies (AS)	
Pathways to CCSU and Charter Oak State College	92

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ENGINEERING TECHNOLOGY

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ENTREPRENEURIAL STUDIES

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Entrepreneurial Studies (C)	124

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Food Service Management (AS)	126
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TECHNOLOGY

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Water Management (C)	147
Fire Technology And Administration (AS)	148
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Web Design (C)	149

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

DENTAL HYGIENE TRANSFER COMPACT

Associate in 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 in 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 in 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 in 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.

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	Intermediate Algebra	3
or		3
MAT* 117	Introduction to Finite Mathematics	3
Elective		3
Total Semester Hours		16

Freshman Year

Spring Semester

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

Sophomore Year

Fall Semester

Course #	Title	Credits
ALH* 102	Methods of Learning in a Clinical Curriculum	3
BIO* 211	Anatomy & Physiology I	4
DNT* 105	Introduction to Dental Hygiene I	1
HIS* 101	Western Civilization I	3
or		3
HIS* 102	Western Civilization II	3
Elective		3
Total Semester 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
PHL* 111	Ethics	3
PSY* 111	General Psychology I	3
Total Semester Hours		14
Total Hours		60

For more information, call Victoria L. Bozzuto, Director of Allied Health, at (203) 285-2390 (vbozzuto@gwcc.commnet.edu).

NUTRITION AND FITNESS PROGRAMS

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 developmental accreditation by the Commission on Accreditation for Dietetics Education of the American Dietetic Association, 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 ADA 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 ADA-approved four-year program in dietetics should consult the program director regarding the transferability of courses. Students may also consider the General Studies Nutrition Focus degree.

DIETETIC TECHNOLOGY MISSION STATEMENT

The mission of the Dietetic Technology program is 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.

DIETETIC TECHNOLOGY PROGRAM OUTCOMES

Upon successful completion of all program requirements, the graduate should possess the following skills:

Graduates will achieve a pass rate of at least 80% 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 104 – Nutrition II.

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, 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 practicum begins.

GRADUATION REQUIREMENTS

In addition to the College's general requirements, this program requires a minimum grade of "C" (73 percent) 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) 285-2389 (mdoran@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Freshman Year

Fall Semester

Course #	Title	Credits
BIO* 115	Human Biology	4
CSC* 101	Introduction to Computers	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 Hours		19

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
NTR* 120	Foods	3
Total Semester Hours		18

Sophomore Year

Fall Semester

Course #	Title	Credits
CHE* 101	Introduction to Chemistry	3
or		
CHE* 111	Concepts of Chemistry	4
NTR* 201	Community Nutrition Education	3
NTR* 202	Nutrition III	3
NTR* 203	Seminar in Dietetics II	3
NTR* 210	Dietetic Practicum I	1
Elective	Humanities	3
Total Semester Hours		16-17

Spring Semester

Course #	Title	Credits
BMG* 220	Human Resources Management 1	3
NTR* 204	Nutrition IV	3
NTR* 212	Dietetic Practicum II	1
Elective	Social Science	3
Total Semester Hours		10
Total Credit Hours		63-64

FITNESS SPECIALIST STUDIES

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.

All credits from Gateway Community College are transferable to Southern Connecticut State University (SCSU). The joint program includes 6.5 credits that must be completed at SCSU and at their tuition rates.

ADMISSION REQUIREMENTS

Students must present current CPR certification. A physical examination is required before beginning NTR* 210. Students should consult with the coordinator of the Dietetic Technology program for advice about course selection and information about additional costs, including liability insurance for NTR* 210. For more information, contact Program Coordinator, Marcia Doran, at (203) 285-2389 (mdoran@gwcc.commnet.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 Hours		10

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 Hours		10

Sophomore Year

Fall Semester

Course #	Title	Credits
NTR* 210	Practicum in Dietetics I	1
<i>Southern Connecticut State University Courses:</i>		
EXS 129	Skills and Techniques, WT Trng. and Personal Fitness	0.5
EXS 384	Exercise Physiology	3
Total Semester Hours		4.5

Spring Semester

Course #	Title	Credits
<i>SCSU Course</i>		
EXS 386	Fitness Management	3
Total Credit Hours		27.5

+ Restricted electives offered by Gateway Community College

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
or	
CSC 110	Using Computers/Software Applications
HSE* 151	Introduction to Therapeutic Recreation
PSY* 111	General Psychology I
PSY* 109	Psychology of Aging
<i>SCSU Course:</i>	
EXS 301	Exercise: Nutritional Aspects

PRE-ALLIED HEALTH
CERTIFICATE

The Pre-Allied Health certificate program provides students with an educational background to facilitate possible admission into an Allied Health/Nursing degree or certificate program. **Completion of this certificate does not guarantee admission into an Allied Health/Nursing program.** The curriculum is based on the academic needs and interests of each student. Students will become familiar with the opportunities available in the various Allied Health/Nursing professions.

Many of the courses are pre-requisites or requirements for the Allied Health or Nursing programs at GCC, and/or may be applied for transfer to other colleges/universities. Some programs may have specific course requirements beyond the courses listed. **Students are responsible for verifying the specific requirements for their program of interest.**

For more information, call Victoria L. Bozzuto, Director of Allied Health, at (203) 285-2390 (vbozzuto@gwcc.commnet.edu) or Alice M. Pandolfi, Allied Health Facilitator at (203) 285-2391 (apandolfi@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
<i>Choose from one of the following:</i>		
ALH 101	Introduction to Allied Health	3
or		
RST* 110	Introduction to Radiology	3
or		
NTR* 101	Introduction to Dietetics	3
<i>Choose from one of the following:</i>		
CSC* 101	Introduction to Computers	3
<i>Choose from one of the following:</i>		
BIO* 115	Human Biology	4
or		
BIO* 211	Anatomy and Physiology I	4
<i>Additional Required Courses:</i>		
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
PSY* 111	General Psychology I	3
HIM* 101	Medical Terminology	3
MAT* 115	Math for Science and Technology	3
Elective	Allied Health/Nursing Program Specific +	<u>3-4</u>
Total Credit Hours		28-29

+ Allied Health/Nursing Program Specific Electives

Choose one of the following courses:

Nursing

Course #	Title	Credits
BIO* 211	Anatomy and Physiology I	4
BIO* 212	Anatomy and Physiology II	4
CHE* 111	Concepts of Chemistry ++	4
ENG* 102	Literature and Composition	3
PSY* 122	Child Growth and Development	3

++ Pre-requisite to be considered for possible admission (with a grade of C or better).

Dietetic Technology

Course #	Title	Credits
BMG* 220	Human Resources Management	3
CHE* 101	Introductory Chemistry	3
or		
CHE* 111	Concepts of Chemistry	4
Elective	Humanities	3
Elective	Social Science	3

Diagnostic Medical Sonography

Course #	Title	Credits
BIO* 211	Anatomy and Physiology I	4
BIO* 212	Anatomy and Physiology II	4
PHY* 101	Physics for Today	3
PHY* 111	Physics for the Life Sciences	4
Elective	Humanities	3

++ Pre-requisite to be considered for possible admission (with a grade of C or better).

Nuclear Medicine Technology

Course #	Title	Credits
BIO* 211	Anatomy and Physiology I++	4
BIO* 212	Anatomy and Physiology II	4
PHY* 101	Physics for Today	3
CHE* 111	Concepts of Chemistry	4
Elective	Humanities	3

++ Pre-requisite to be considered for possible admission (with a grade of C or better).

Radiation Therapy

Course #	Title	Credits
BIO* 211	Anatomy and Physiology I	4
BIO* 212	Anatomy and Physiology II	4
PHY* 101	Physics for Today	3
PHY* 111	Physics for the Life Sciences	4
Elective	Humanities	3

Radiography

Course #	Title	Credits
BIO* 211	Anatomy and Physiology I	4
BIO* 212	Anatomy and Physiology II	4
PHY* 101	Physics for Today	3
PHY* 111	Physics for the Life Sciences	4
Elective	Humanities	3

PRE-ALLIED HEALTH CERTIFICATE PROGRAM OUTCOMES

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

- Demonstrate competence in written and oral communication.
- Demonstrate critical thinking and logical reasoning.
- Recognize the need for lifelong learning and continuing education.
- Effectively utilize and interpret medical terminology.
- Discuss the various career opportunities available in the nursing and allied health professions.

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. Each of the programs is accredited by the Board of Governors for Higher Education and the Joint Review Committees on Education in Radiologic Technology and Nuclear Medicine Technology (Diagnostic Medical Sonography pending).

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 (www.gwcc.comnet.edu). Students should apply as early as possible, due to the limited number of places available. In addition to the College's general admission policies, the applicant must meet the following criteria:

Successful completion of the ACCUPLACER examination in mathematics, reading, and writing skills

Submission of the radiology application

Completion and submission of five programmatic questions

Attendance at a program-specific information session

Completion of pre-requisite courses

Submission by July 15 of a current medical examination report by a physician that states that the applicant is in good physical and emotional health and free of communicable diseases. (Check with the Allied Health Department for appropriate medical forms.)

Accepted candidates will be notified by the Admissions Office; all candidate selections are final. The program director 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 Program Guide is available to all applicants upon request.

Students in this 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 program requires a minimum grade of "C" (75 percent) in each and all mathematics, science, pre-requisite, and program-specific courses. In addition, the student must 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 and/or Nuclear Medicine Technology Certification Board.

For more information on the Radiologic Technology programs, contact the Allied Health Director, Victoria L. Bozzuto, at (203) 285-2390 (vbozzuto@gwcc.commnet.edu).

PREREQUISITE COURSE WORK

The following high school courses are recommended prior to admission to the radiology programs:

Science

Biology: Biology offers students exploratory experiences and activities in the fundamental concept of life. Laboratory/field experiences are an integral component of Biology.

Chemistry: Chemistry offers students general laboratory experience and introduces the concepts of chemistry, including the composition of substances and their effects on each another.

Physics: Physics offers general laboratory experience and introduces the physical interactions of matter and energy.

Math

Algebra I: Provides an understanding of basic algebra; concepts, skills, structure, and applications are emphasized.

Algebra II: Provides detailed knowledge of algebra, emphasizing in-depth development of algebraic functions.

Geometry: An appreciation for geometric concepts, emphasizing discovery, proof, and application of geometric relationships and principles.

Note: Non-traditional students who did not complete high school but who later 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 in 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 in Science Degree. In accordance with Board of Trustees of Community Colleges Policy, Gateway 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 Technology. Certification areas include: Diagnostic Medical Sonography, Nuclear Medicine, Radiation Therapy, and Radiography, ARDMS, ARRT (N), (T), (R) (D), 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

(Pending Initial Accreditation)

A description of admissions requirements are available from the Allied Health Department and online at **www.gwcc.commnet.edu**. The associate degree program in Diagnostic Medical Sonography (DMS) provides individuals with the academic and technical skills necessary to perform abdominal, obstetrical and gynecological, and vascular sonography procedures. Upon completion of the two-year program, 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 and BIO* 212.)* For more information, contact Diagnostic Medical Sonography Program Coordinator, Valerie Hylas, at (203) 285-2383 (vhylas@gwcc.commnet.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 Physics, Abdomen/Small Parts and OB/GYN.

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

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 Hours		17

Winter Intersession

(40 hrs./week at affiliates)

Course #	Title	Credits
DMS* 113	Clinical Internship I	1

Spring Semester

(Practicum at affiliates Tuesday and Thursday)

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
CSC 110	Software Applications/Using Computers	3
DMS* 102	Sonographic Physics and Instrumentation I	3
DMS* 103	Sonographic Imaging and Lab	4
DMS* 112	Clinical Practicum II	1
Total Semester Hours		14

Summer Session Clinical Internship I

(40 hrs./week at affiliates)

Course #	Title	Credits
DMS* 126	Clinical Internship II	2

Sophomore Year

Fall Semester

(Practicum at affiliates Monday, Wednesday, Friday)

Course #	Title	Credits
DMS* 201	Sonographic Physics and Instrumentation II	3
DMS* 203	Advanced Sonographic Application	3
DMS* 211	Clinical Practicum III	1
PSY* 111	General Psychology I	3
RST* 217	Clinical Pathology	3
Total Semester Hours		13

Spring Semester

(Practicum at affiliates Monday, Wednesday, Friday)

Course #	Title	Credits
DMS* 204	Obstetrical/Gynecological Sonography	3
DMS* 205	Abdominal Sonography	3
DMS* 206	Vascular Imaging	3
DMS* 212	Clinical Practicum IV	1
Elective	Humanities	3
Total Semester Hours		13
Total Credit Hours		63

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, the Hospital of St. Raphael (New Haven), the Veterans Affairs Connecticut Health Care System (West Haven), Middlesex Hospital (Middletown), Griffin Hospital (Derby), Cardinal Health Nuclear Pharmacy Services (Glastonbury), 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). For more information, call the Program Coordinator, Kathleen Murphy, at (203) 285-2381 or (**kmurphy@gwcc.commnet.edu**).

Prerequisite for Admission: Anatomy and Physiology I (BIO* 211) or a transferable equivalent with a grade of “C” or better.

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 “Performance and Responsibility Guidelines for the Nuclear Medicine Technologist” from the Academic and Socioeconomic Affairs Committee of the Society of Nuclear Medicine Technologist Section, 2003 revision):

Patient Care: The exercise of judgment to assess and respond to patients’ needs prior to, during and following nuclear medicine procedures.

Quality Control: The evaluation and maintenance of a quality control program to ensure instrumentation, credibility and reliability.

Diagnostic Procedures: The utilization of appropriate technique to ensure quality diagnostic images and/or laboratory results.

Radiopharmaceuticals: The procurement, preparation, quality control, calculation, identification, documentation, administration, disposal, storage, and safe handling of radiopharmaceuticals.

Radionuclide Therapy: The collaboration with an authorized user to apply and manage a therapeutic radionuclide treatment.

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
BIO* 212	Anatomy and Physiology II	4
MAT* 115	Mathematics for Science and Technology	3
NMT* 101	Introduction to Nuclear Medicine	3
NMT* 102	Nuclear Medicine Procedures I	3
NMT* 111	Clinical Practicum I	1
PHY* 101	Physics for Today	3
Total Semester Hours		17

Winter Intersession

(Practicum at affiliates Monday through Friday)

Course #	Title	Credits
NMT* 113	Clinical Internship I (40 hrs./week at clinical affiliates)	0.5

Spring Semester

(Practicum at affiliates Tuesday and Thursday)

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
CHE* 111	Concepts of Chemistry	4
ENG* 101	Composition	3
NMT* 112	Clinical Practicum II	1
NMT* 121	Physics in Nuclear Medicine	3
Total Semester Hours		14

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

Course #	Title	Credits
NMT* 126	Clinical Internship II (40 hrs./week at clinical affiliates)	1.5

Sophomore Year

Fall Semester

(Practicum at affiliates Monday, Wednesday, and Friday)

Course #	Title	Credits
NMT* 201	Nuclear Medicine Procedures II	3
NMT* 211	Clinical Practicum III	1.5
NMT* 202	Nuclear Medicine Instrumentation	3
NMT* 203	Radiopharmacy	3
RST* 217	Clinical Pathology	3
PSY* 111	General Psychology I	3
Total Semester Hours		16.5

Winter Intersession

(Practicum at affiliates Monday through Friday)

Course #	Title	Credits
NMT* 216	Clinical Internship III (40 hrs./week at affiliates)	0.5

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	Introduction to Computers and Nuclear Medicine Applications	3
NMT* 223	Nuclear Medicine Seminar	3
NMT* 230	Nuclear Medicine Research Methods	3
NMT* 231	Clinical Internship IV	0.5
Elective	Humanities	3
Total Semester Hours		17
Total Credit Hours		67

Total Clinical Practicum at the affiliates, including Clinical Internships I, II, III, and IV, 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, the Hospital of St. Raphael (New Haven), the Veterans Affairs Connecticut Health Care System (West Haven), Middlesex Hospital (Middletown), Griffin Hospital (Derby), Cardinal Health Nuclear Pharmacy Services (Glastonbury), 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).

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:

In accordance with the Board of Trustees Policy, 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, and Radiation Therapy.

- 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. Concepts of Chemistry (CHE* 111) or a transferable equivalent with a grade of C or better

Students will be required to attend orientation sessions in the summer before entering the program. For more information, contact the Program Coordinator, Kathleen Murphy, at (203) 285-2381 (kmurphy@gwcc.commnet.edu).

PROGRAM REQUIREMENTS**First Year****Fall Semester**

(Practicum at affiliates Tuesday and Thursday)

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

Spring Semester

(Practicum at affiliates Tuesday and Thursday)

Course #	Title	Credits
NMT* 112	Clinical Practicum II	1
NMT* 121	Physics in Nuclear Medicine	<u>3</u>
Total Semester Hours		4

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

Course #	Title	Credits
NMT* 126	Clinical Internship II (40 hrs./week at clinical affiliates)	1.5

Second Year**Fall Semester**

(Practicum at affiliates Monday, Wednesday, and Friday)

Course #	Title	Credits
NMT* 201	Nuclear Medicine Procedures II	3
NMT* 202	Nuclear Medicine Instrumentation	3
NMT* 203	Radiopharmacy	3
NMT* 211	Clinical Practicum III	<u>1.5</u>
Total Semester Hours		10.5

Winter Intersession (Practicum at affiliates Monday through Friday)

Course #	Title	Credits
NMT* 216	Clinical Internship III (40 hrs./week at clinical affiliates)	0.5

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	Introduction to Computers and Nuclear Medicine Applications	3
NMT* 223	Nuclear Medicine Seminar	3
NMT* 230	Nuclear Medicine Research Methods	3
NMT* 231	Clinical Internship IV	<u>0.5</u>
Total Semester Hours		14
Total Credit Hours		34.5

RADIATION THERAPY

Associate in Science

The associate degree program in radiation therapy is based on twenty-two (22) months of full time study. The curriculum includes didactic and supervised clinical education to assure sufficient opportunity to achieve all didactic and clinical requirements. Students are assigned on a rotating basis to the following clinical sites: Yale-New Haven Hospital, Hospital of St. Raphael, Bridgeport Hospital, Danbury Hospital, Trumbull Oncology, and Lawrence and Memorial Hospital. For more information, call the Program Director Gina Finn, at (203) 285-2392 (gfinn@gwcc.commnet.edu).

RADIATION THERAPY MISSION STATEMENT

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

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.

This curriculum prepares students for employment as radiation therapists in hospitals and cancer centers. Upon completion of the program, the student may apply to take the certifying board examination administered by the American Registry of Radiologic Technology (Radiation Therapy).

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
BIO* 211	Anatomy and Physiology I	4
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	<u>1</u>
Total Semester Hours		18

Winter Intersession:

RDT* 113	Clinical Internship I (40 hrs./week at clinical affiliates)	1
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Spring Semester

(Clinical Practicum at hospital Tuesday and Thursday)

Course #	Title	Credits
BIO* 212	Anatomy and Physiology II	4
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	<u>3</u>
Total Semester Hours		17

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

RDT* 126	Clinical Internship II	3
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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 Assisted Treatment Planning	3
RDT* 211	Clinical Practicum III	2
Elective	Humanities	<u>3</u>
Total Semester Hours		14

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

RDT* 218	Clinical Internship III	1
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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	<u>3</u>
Total Semester Hours		14
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).

RADIOGRAPHY 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.

RADIOGRAPHY PROGRAM OUTCOMES

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

- Perform diagnostic radiographic examinations to provide a source of information for interpretation by a radiologist and viewing for referring physicians
- Operate radiographic equipment to ensure proper technical skills
- Prepare examination rooms to ensure proper and accurate performance of exams as well as a safe environment for patients
- Perform various general support functions in the department to ensure sufficient utilization of time
- Apply the principles of radiation protection for patients, self, and others
- Maintain knowledge of radiology computer systems
- Follow established program and departmental precautions and procedures in the performance of all job duties to ensure a safe work environment for self and others
- Demonstrate standards of behavior in accordance with clinical training to ensure a professionally responsive and courteous clinical environment for patients, visitors, and fellow employees

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, and Guilford Radiology. 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 Program Coordinator, Julie Austin, at (203) 285-2382 (jaustin@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

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

Freshman Year

Fall Semester (Practicum at affiliates Tuesday and Thursday)

Course #	Title	Credits
BIO* 211	Anatomy and Physiology I	4
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 Hours		18

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

RAD* 187	Clinical Internship I	1
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Spring Semester (Practicum at affiliates Tuesday and Thursday)

Course #	Title	Credits
BIO* 212	Anatomy and Physiology II	4
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
RAD* 194	Clinical Practicum II	1
RAD* 204	Radiographic Anatomy and Procedures II	3
RST* 213	Radiation Physics	3
Total Semester Hours		17

Summer Session (40 hrs./week at clinical affiliates)

RAD* 188	Clinical Internship II	2
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Sophomore Year

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

Course #	Title	Credits
PSY* 111	General Psychology I	3
RAD* 196	Radiographic Anatomy and Procedures III	3
RST* 217	Clinical Pathology	3
RAD* 203	Principles of Radiographic Exposure I	3
RAD* 291	Clinical Practicum III	1
Total Semester Hours		13

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

RAD* 286	Clinical Internship III	1
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Spring Semester (Practicum at affiliates Monday, Wednesday and Friday)

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 Hours		16
Total Credit Hours		68

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 him at nhalko@gwcc.commnet.edu. Visit the Art website at <http://www.gwcc.commnet.edu/artdept/artdept.html>

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	Literature and Composition	3
MAT* 109	Quantitative Literacy (or other degree credit math course)	3
Elective	Computer Literacy	3
Elective	Natural Science with Lab	3-4
Elective	Social Science	3
Elective (A or B)	Art History	<u>3</u>
		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	<u>3</u>
		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	<u>3</u>

Total Credit Hours**63-64****Electives****A** Selected with advisement by the Program Coordinator**B** Art History Electives:

ART* 101	Art History I	3
ART* 102	Art History II	3
ART* 103	Art History III	3
ART* 204	Women Artists +	3

X Studio Art Electives:

ART* 142	Photography II +	3
ART* 132	Sculpture II +	3
GRA* 231	Digital Photography I	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 promote art as an avocation. For more information, call Nicholas Halko at (203) 285-2241 or e-mail him at nhalko@gwcc.commnet.edu. Visit the Art website at www.gwcc.commnet.edu/artdept/artdept.html

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
ENG* 101	Composition	3
COM* 171	Fundamentals of Human Communication	3
MAT* 141	Number Systems (or other higher credit math course)	3
Elective	Humanities	3
Elective	Computer Literacy	3
Elective	Natural Science with Lab	3-4
Elective	Social Science	3
Elective (A or B)	Art History	3
		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
ENG* 102	Literature and Composition	3
		27

Courses in Option

Course #	Title	Credits
GRA* 151	Graphic Design I	3
GRA* 252	Graphic Design II +	3
GRA* 241	Digital Page Design I	3
Elective (Z)	Graphic Design	3
		12

Total Credit Hours

63-64

Electives

A Selected with advisement by the Program Coordinator

Z Graphic Design Electives:

ART* 113	Figure Drawing I	3
ART* 142	Photography II +	3
DGA* 223	Digital Illustration	3
GRA* 231	Digital Imaging	3

+ Prerequisite is required

AUTOMOTIVE

AC Delco Technician Service Education Program (TSEP)

Certificate

This certificate program allows students flexibility by offering a short learning period and meets the growing need for technicians within the College's service region. It will train students to become highly skilled automotive technicians through college training and internships at dealerships.

AC DELCO TECHNICAL SERVICE EDUCATION CERTIFICATE PROGRAM OUTCOMES

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

- Make general engine diagnoses of and repairs on, among others, the engine's cylinder heads, valve train, block, lubrication, and cooling system
- Make general transmission and transaxle maintenance, adjustment, diagnosis, and repair
- Diagnose, service, adjust, align, and repair suspension and steering system (including wheel and tire)
- Make general maintenance, diagnosis, adjustment, and repair of disc and/or drum brake system hydraulics, power assists, and ABS (antilock brakes)
- Apply knowledge of general electrical/electronic systems, including but not limited to starting, charging, lighting, wiring, accessories, diagnosis, and repair
- Provide general maintenance, adjustment, diagnosis, and repair of heating and air-conditioning systems and their components
- Provide general maintenance, diagnosis, adjustment, and repair of engine performance, including but not limited to computer controls, ignition, fuel, exhaust, and emission systems

PROGRAM REQUIREMENTS

Fall Semester

Course #	Title	Credits
AUT* 140	AC Delco Engines	3
AUT* 144	AC Delco Electrical Systems	3.5
AUT* 148	AC Delco Brake Systems	3.5
AUT* 241	AC Delco Fuel Systems	3.5
AUT* 243	AC Delco Manual Transmission/Transaxles	<u>3.5</u>
		17

Spring Semester

AUT* 146	AC Delco Suspension Systems	3
AUT* 245	AC Delco Automatic Transmission/Transaxles	3.5
AUT* 247	AC Delco Heating and Air-Conditioning	3.5
AFV* 238	Hybrid Vehicle	<u>3</u>
		13

Summer Session

AUT* 170	Internship II	4
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Sophomore Year

Fall Semester

AUT* 260	Internship III	2
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Total Credit Hours 36

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 the Transportation Technology Program Lead Instructor, Anthony Rish, at (203) 285-2434 (arish@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Fall Semester

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

Spring Semester

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

+ Restricted Electives

<i>AFV* 240</i>	<i>CNG Installation & Maintenance</i>
<i>AFV* 244</i>	<i>Electric Fuel</i>
<i>AFV* 246</i>	<i>CNG Diagnosis & Repair</i>

AUTOMOTIVE TECHNOLOGY

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 Dealership. Through a special arrangement, students attend classes and labs at the North Haven Campus and then work full-time at a sponsoring GM dealership.

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. Each student accepted into the program must purchase the tools required in the program; have a valid driver's license; be sponsored by a General Motors Cadillac, Buick, Oldsmobile, Pontiac, Chevrolet, Saturn, GMC Truck, or SAAB Dealership; and wear a uniform while attending classes; and join Skills USA-VICA (student organization). It is the student's responsibility to secure a sponsoring dealership.

Assistance in locating a GM Dealership can be requested from the Automotive Program Coordinator. 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 national certification. For more information, call the Transportation Technology Program Coordinator, Wayne Demske at (203) 285-2334 (wdemske@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Freshman Year

Fall Semester

Course #	Title	Credits
AUT* 110	GM Engine Repair	3
AUT* 112	GM Specifications	2
AUT* 114	GM Electrical Systems	3.5
ENG* 101	Composition	3
MAT* 115	Mathematics for Science and Technology	3
Total Semester Hours		14.5

Spring Semester

Course #	Title	Credits
AUT* 116	GM Suspension and Steering	3
AUT* 118	GM Brakes	3.5
AFV* 238	Hybrid Vehicle	3
COM* 171	Fundamentals of Human Communication	3
Elective	Fine Arts	3
Total Semester Hours		15.5

Summer Session

Course #	Title	Credits
AUT* 170	Internship II	4

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* 260	Internship III	2
PHY* 109	Fundamentals of Applied Physics	4
Elective	Humanities	3
Total Semester Hours		16

Spring Semester

Course #	Title	Credits
AUT* 205	GM Automatic Transmission and Transaxle	3.5
AUT* 207	GM Heating and Air Conditioning	3.5
AUT* 270	Internship IV	2
CET 116	Computer Applications for Technology	3
Elective	Social Science	3
Total Semester Hours		15
Total Credit Hours		65

AUTOMOTIVE TECHNOLOGY

TOYOTA TECHNICAL EDUCATION NETWORK (T-TEN)

Associate in Applied Science

The T-Ten Program was designed by Toyota Motors and Gateway Community College. This unique, cooperative program trains students for a challenging career in a Toyota or Lexus Dealership. Through a special arrangement, students attend classes and labs at the North Haven Campus and then work full-time at a sponsoring Toyota dealership.

Students in the T-Ten program receive state-of-the-art instruction on Toyota Motors products. Vehicles, parts, engines, tools, training manuals, and materials are provided by Toyota Motors Corporation. Each student accepted into the program must purchase the tools required in the program, have a valid driver's license, be sponsored by a Toyota or Lexus dealership, and wear a uniform while attending classes; and join Skills USA-VICA (student organization). It is the student's responsibility to secure a sponsoring dealership. Assistance in locating a Toyota or Lexus dealership can be requested from the Automotive Program Coordinator.

Upon completion of the T-Ten 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 national certification. For more information, call the Transportation Technology Program Coordinator, Robert Costanzo, at (203) 285-2369 (rcostanzo@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Freshman Year

Fall Semester

Course #	Title	Credits
AUT* 120	Toyota Engine Repair	3
AUT* 122	Toyota Specifications	2
AUT* 124	Toyota Electrical Systems	3.5
ENG* 101	Composition	3
MAT* 115	Mathematics for Science and Technology	3
Total Semester Hours		14.5

Spring Semester

Course #	Title	Credits
AUT* 126	Toyota Suspension and Steering	3
AUT* 128	Toyota Brakes	3.5
AFV* 238	Hybrid Vehicle	3
COM* 171	Fundamentals of Human Communication	3
Elective	Fine Arts	3
Total Semester Hours		15.5

Summer Session

Course #	Title	Credits
AUT* 170	Internship II	4

Sophomore Year

Fall Semester

Course #	Title	Credits
AUT* 221	Toyota Engine Performance	3.5
AUT* 223	Toyota Manual Drive Train and Axles	3.5
AUT* 260	Internship III	2
PHY* 109	Fundamentals of Applied Physics	4
Elective	Humanities	3
Total Semester Hours		16

Spring Semester

Course #	Title	Credits
AUT* 225	Toyota Automatic Transmission and Transaxle	3.5
AUT* 227	Toyota Heating and Air Conditioning	3.5
AUT* 270	Internship IV	2
CET 116	Computer Applications for Technology	3
Elective	Social Science	3
Total Semester Hours		15
Total Credit Hours		65

AUTOMOTIVE TECHNOLOGY

Certificate

This unique one-year certificate program prepares students for a career in the automotive industry. Upon completion of the courses, students will receive a certificate in Automotive Technology from Gateway Community College. All courses are transferable to an Associate in applied science degree in Automotive Technology.

AUTOMOTIVE TECHNOLOGY CERTIFICATE PROGRAM OUTCOMES

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

Make general diagnoses of and repairs on engine components, including but not limited to the engine's cylinder heads, valve train, block, lubrication, and cooling system

Provide general maintenance, adjustment, diagnosis, and repair of transmissions and transaxles

Diagnose, service, adjust, align, and repair suspension and steering systems (including wheel and tire)

Provide general maintenance, adjustment diagnosis, and repair of disc and/or drum brake system hydraulics, power assists, and ABS (antilock brakes)

Provide general diagnosis and repair of electrical/electronic systems, including but not limited to starting, charging, lighting, wiring, and accessories

Provide general maintenance, adjustment, diagnosis, and repair of heating and air conditioning systems and their components

Provide general maintenance, diagnosis, adjustments, and repair of engine performance factors, including but not limited to computer controls, ignition, fuel, exhaust, and emission systems

PROGRAM REQUIREMENTS

Fall Semester

Course #	Title	Credits
AUT* 120	Toyota Engine Repair	3
AUT* 124	Toyota Electrical Systems	3.5
AUT* 128	Toyota Brakes	3.5
AUT* 221	Toyota Engine Performance	3.5
AUT* 223	Toyota Manual Drive Train and Axles	3.5
Total Semester Hours		17

Spring Semester

Course #	Title	Credits
AUT* 126	Toyota Suspension and Steering	3
AUT* 225	Toyota Automatic Transmission and Transaxles	3.5
AUT* 227	Toyota Heating and Air-Conditioning	3.5
AFV* 238	Hybrid Vehicle	3
		13

Summer Semester

Course #	Title	Credits
AUT* 170	Internship II	4

Fall Semester

Course #	Title	Credits
AUT* 260	Internship III	2
Total Credit Hours		36

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 (wdemske@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
AUT* 248	Advanced Electrical Systems Electronics	
or		3.5
AUT* 282	Advanced Fuel Injection Systems	
AUT* 280	Internship V (16 weeks)	<u>6</u>
	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 and have an active license. Thirty credits will be granted to individuals who have an active FAA license. An additional thirty-three (33) credits of college instruction must be completed for the Associate in Science degree.

AVIATION MAINTENANCE TECHNOLOGY PROGRAM OUTCOMES

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

- Possess a Federal Aviation Agency (FAA) Airframe and/or 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 Wayne Demske, at (203) 285-2334 (wdemske@gwcc.commnet.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 Credits	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, Carol Trifiatis, at (203) 285-2170 (ctrifiatis@gwcc.commnet.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

First Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
MAT* 137	Intermediate Algebra	3
Elective	Social Science	3
Elective	Natural Science	<u>3-4</u>
		15-16

Second Semester

ACC* 113	Principles of Financial Accounting	3
BBG* 101	Introduction to Business	3
BOT* 216	Spreadsheet Applications	3
ENG* 102	Literature and Composition	3
Elective	Fine Arts	<u>3</u>
		15

Third Semester

ACC* 114	Principles of Financial Accounting II	
or		3
ACC* 117	Principles of Managerial Accounting	
BBG* 231	Business Law I	3
BMK* 201	Principles of Marketing	3
BMG* 202	Principles of Management	3
ECN* 102	Microeconomics	<u>3</u>
		15

Fourth Semester

BBG* 200	Principles of Business Statistics	3
BBG* 232	Business Law II	3
BFN* 201	Principles of Finance	3
ECN* 101	Macroeconomics	3
Elective	Business	<u>3</u>
		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* 115	Business Software Applications	
or		3
BOT* 216	Spreadsheet Applications	
BBG* 231	Business Law I	3
BMK* 201	Principles of Marketing	3
BMG* 202	Principles of Management	3
Electives +		<u>6</u>
	Total Credit Hours	21

Electives: Select any two of the following:

Course #	Title	Credits
ACC* 117	Principles of Managerial Accounting	3
BBG* 200	Principles of Business Statistics	3
BBG* 210	Business Communication	3
ECN* 102	Microeconomics	3

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
		<u>24-25</u>

PROGRAM REQUIREMENTS

Course #	Title	Credits
ACC* 113	Principles of Financial Accounting	3
ACC* 114	Principles of Financial Accounting II	3
ACC* 117	Principles of Managerial Accounting	3
ACC* 241	Federal Taxes I	3
BBG* 200	Principles of Business Statistics	3
BBG* 231	Business Law I	3
BBG* 232	Business Law II	3
BOT* 216	Spreadsheet Applications	3
BFN* 201	Principles of Finance	3
ECN* 101	Macroeconomics	3
ECN* 102	Microeconomics	3
Elective	Business	3
		<u>36</u>
	Total Program Credits	36
	Total Credits	60-61

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

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

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, Carol Trifiatis, at (203) 285-2170 (ctrifiatis@gwcc.commnet.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
BOT* 216	Spreadsheet Applications	<u>3</u>
Total 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, Carol Trifiatis, at (203) 285-2170 (ctrifiatis@gwcc.commnet.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	Office Procedures and Management	3
BOT* 165	Business Office Accounting	3
or		3
ACC* 113	Principles of Financial Accounting	
BOT* 137	Word Processing Applications	3
BOT* 216	Spreadsheet Applications	3
BOT* 218	Database Applications	3
ENG* 101	Composition	<u>3</u>
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

First Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
MAT* 137	Intermediate Algebra	3
Elective	Social Science	3
Elective	Natural Science	3-4
Total Semester Hours		15-16

Second Semester

Course #	Title	Credits
ACC* 113	Principles of Financial Accounting	3
BBG* 231	Business Law I	3
BMG* 202	Principles of Management	3
BOT* 216	Spreadsheet Applications	3
ENG* 102	Literature and Composition	3
Second Semester Hours		15

Third Semester

Course #	Title	Credits
ACC* 117	Principles of Managerial Accounting	3
BFN* 201	Principles of Finance	3
BMG* 220	Human Resources Management	3
ECN* 102	Microeconomics	3
Elective	Fine Arts Elective	3
Third Semester Hours		15

Fourth Semester

Course #	Title	Credits
BBG* 200	Principles of Business Statistics	3
BMG* 201	Principles of Supervision	3
BBG* 210	Business Communication	3
ECN* 101	Macroeconomics	3
Elective	Business	3
Fourth Semester 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

First Semester

Course #	Title	Credits
ENG* 101	Composition	3
COM* 171	Fundamentals of Human Communication	
or		3
COM* 172	Interpersonal Communication	
BOT* 216	Spreadsheet Applications	3
BMG* 202	Principles of Management	<u>3</u>
	Total Semester Hours	12

Second Semester

Course #	Title	Credits
BBG* 210	Business Communication	3
BMG* 220	Human Resources Management	3
BMG* 201	Principles of Supervision	3
Elective	Business	<u>3</u>
	Total Semester Hours	12
	Total Credit Hours	24

BUSINESS OFFICE TECHNOLOGY

BUSINESS OFFICE TECHNOLOGY PROGRAM OUTCOMES

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

- Read, understand, and prepare standard types of business communications.
- Demonstrate appropriate interpersonal, human relations skills.
- Use appropriate business office procedures.
- Possess appropriate skills in the following software: operating system, word processing (including keyboarding), electronic spreadsheet, database management, integrated office applications, and presentation graphics.
- Understand the importance of ethics and confidentiality in dealing with business, medical, and/or legal issues.
- Work with others, including culturally and intellectually diverse peoples; think critically; and gain an appreciation for life-long learning.

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 five 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) 285-2176. 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 Division. For more information, call the Program Coordinator, Marsha Janik, at (203) 285-2176 or e-mail her at mjanik@gwcc.commnet.edu.

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
ENG* 101	Composition	3
COM* 171	Fundamentals of Human Communication	3
MAT* 109 +	Quantitative Literacy	3
PSY* 247	Industrial and Organizational Psychology	3
or		
PSY* 111	General Psychology I	3
BOT* 216	Spreadsheet Applications	3
Elective	Humanities	3
Elective	Natural Science	<u>3-4</u>
		21-22

+ Or higher level mathematics course recommended by the academic advisor
All BOT courses qualify as Business and/or Computer electives.

BOT: ADMINISTRATIVE ASSISTANT OPTION**Associate in Science**

A career as an administrative assistant requires preparation in business skills, general education, and administrative capability. Required skills include such techniques as keyboarding, records management, and word processing that must be mastered in order to achieve competence in basic office work. General background is acquired in liberal arts courses and business courses. Administrative capability involves the knowledge and use of problem-solving techniques. For more information, call the Program Coordinator, Marsha Janik, at (203) 285-2176 or e-mail her at mjanik@gwcc.commnet.edu.

PROGRAM REQUIREMENTS

General Education Requirements (see page 84)		21-22
Course #	Title	Credits
BBG* 210	Business Communication	3
BBG* 231	Business Law I	
or		3
BMG* 202	Principles of Management	
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
BOT* 218	Database Applications	3
BOT* 219	Integrated Office (S)	3
BOT* 220	Computerized Communication	3
BOT* 251	Administrative Procedures (F)	3
BOT* 252	Administrative Procedures II (S)	3
BOT* 295	Administrative Practicum (S)	3
Total Credit Hours		60-61

(F) Offered Fall Semester

(S) Offered Spring Semester

+ Students who satisfy the Keyboarding for Information Processing I (BOT* 111) requirement may substitute Desktop Publishing (BOT* 217).

BOT: ADMINISTRATIVE ASSISTANT**Certificate**

This is a skill-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 clerical skills: keyboarding, machine transcription, word processing, and English skills. For more information, call the Business Office Technology Program Coordinator, Marsha Janik, at (203) 285-2176 or e-mail her at mjanik@gwcc.commnet.edu.

PROGRAM REQUIREMENTS

Course #	Title	Credits
BBG* 210	Business Communication	3
BOT* 111 +	Keyboarding for Information Processing I	
or		3
BOT* 219	Integrated Office (S)	
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* 216	Spreadsheet Applications	3
BOT* 251	Administrative Procedures (F)	3
BOT* 252	Administrative Procedures II (S)	3
BOT* 295	Administrative Practicum (S)	3
Total Credit Hours		30

(F) Offered Fall Semester

(S) Offered Spring Semester

+ Students who satisfy the Keyboarding for Information Processing I (BOT* 111) requirement may substitute Database Applications (BOT* 218).

BOT: ADMINISTRATIVE ASSISTANT FOREIGN LANGUAGE OPTION**Associate in Science**

Because many United States-based companies have offices in other countries or do business with foreign companies, an increasing number of positions are becoming available for administrative assistants who are able to read, write, and speak a foreign language. The foreign language option allows students to begin or continue the study of Italian, French, or Spanish while perfecting their administrative skills. For more information, call the Program Coordinator, Marsha Janik, at (203) 285-2176 or e-mail her at mjanik@gwcc.commnet.edu.

PROGRAM REQUIREMENTS

General Education Requirements (see page 84)		21-22
Course #	Title	Credits
BBG* 210	Business Communication	3
BOT* 111 +	Keyboarding for Information Processing I	3
BOT* 112	Keyboarding for Information Processing II	3
BOT* 219	Integrated Office (S)	3
BOT* 137	Word Processing Applications	3
BOT* 165	Small Business Office Accounting	3
BOT* 215	Word Processing Applications II	3
BOT* 218	Database Applications	3
BOT* 220	Computerized Communication	3
BOT* 251	Administrative Procedures (F)	3
BOT* 252	Administrative Procedures II (S)	3
BOT* 295	Administrative Practicum (S)	3
Elective	Foreign Language ++	3
Total Credit Hours		60-61

(F) Offered Fall Semester

(S) Offered Spring Semester

+ Students who satisfy the Keyboarding for Information Processing I (BOT* 111) requirement may substitute Desktop Publishing (BOT* 217).

++ It is recommended to use the foreign language elective to fulfill the Humanities requirement.

BOT: CUSTOMER SERVICE TECHNOLOGY**Certificate**

This program prepares students for entry-level customer service representative positions. It provides training in the computer, communication, and interpersonal skills required for customer contact that lead to customer satisfaction and an improved professional image. This program provides a foundation for job opportunities at telephone companies, collection agencies, credit bureaus, public utilities, and more. For more information, call the Acting Program Coordinator, Marsha Janik, at (203) 285-2176 or e-mail her at mjanik@gwcc.commnet.edu.

PROGRAM REQUIREMENTS

Course #	Title	Credits
BBG* 210	Business Communication	3
BMK* 201	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
BOT* 216	Spreadsheet Applications	3
BOT* 251	Administrative Procedures	3
COM* 171	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.

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 different 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, Marsha Janik, at (203) 285-2176 or e-mail her at mjanik@gwcc.commnet.edu.

PROGRAM REQUIREMENTS

General Education Requirements (see page 84)		21-22
Course #	Title	Credits
BBG* 210	Business Communication	3
BBG* 231	Business Law I	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
BOT* 217	Desktop Publishing	3
BOT* 219	Integrated Office (S)	3
BOT* 252	Administrative Procedures II (S)	3
BOT* 271 ++	Legal Document Production (F) (odd years)	3
BOT* 272 ++	Legal Administrative Procedures (F) (odd years)	3
or		
BOT* 251	Administrative Procedures (F)	3
BOT* 295	Administrative Practicum (S)	3
Total Credit Hours		60-61

(F) Offered Fall Semester

(S) Offered Spring Semester

+ 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 from one medical specialty to another and among the different departments of a hospital or clinic. However, all medical administrative assistants, in addition to regular office duties, should be able to perform specialized tasks. These tasks include making appointments; quoting fees to patients; recording patients' charges and payments; issuing and collecting bills; transcribing medical histories; completing insurance forms; helping patients understand doctors' instructions regarding diets, prenatal care, exercises, etc.; searching medical journals for items of interest to doctors; proofreading doctors' articles, lectures, and manuscripts; and preparing records for doctors' use in court. For more information, call the Program Coordinator, Marsha Janik, at (203) 285-2176 or e-mail her at mjanik@gwcc.commnet.edu.

PROGRAM REQUIREMENTS

General Education Requirements (see page 84)		21-22
Course #	Title	Credits
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* 215	Word Processing Applications II	3
BOT* 218	Database Applications	3
BOT* 219	Integrated Office (S)	3
BOT* 220	Computerized Communication	3
BOT* 280	Medical Transcription and Document Production (F)	3
BOT* 282	Medical Administrative Procedures (F)	3
BOT* 295	Administrative Practicum (S)	3
Total Credit Hours		60

(F) Offered Fall Semester

(S) Offered Spring Semester

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 an elective after consultation with BOT faculty.

BOT: MEDICAL ADMINISTRATIVE ASSISTANT**Certificate**

The Medical Administrative Assistant Certificate prepares students to work in a medical office or hospital. Word processing skills, medical transcription skills, insurance coding, and training on medical office software program are emphasized. For more information, call the Business Office Technology Program Coordinator, Marsha Janik, at (203) 285-2176 or e-mail her at mjanik@gwcc.commnet.edu.

PROGRAM REQUIREMENTS

Course #	Title	Credits
BIO* 110	Principles of the Human Body	3-4
or		
BIO* 115	Human Biology	
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* 215	Word Processing Applications II	3
BOT* 216	Spreadsheet Applications	3
BOT* 280	Medical Transcription and Document Production (F)	3
BOT* 282	Medical Administrative Procedures	3
BOT* 295	Administrative Practicum (S)	3
Total Credit Hours		30-31

(F) Offered fall semester

(S) Offered spring semester

+ Students who satisfy the Keyboarding for Information Processing I (BOT* 111) requirement may substitute Business Communication (BBG* 210), Business Office Accounting (BOT* 165), Desktop Publishing (BOT* 217), Computerized Communication (BOT* 220), or Database Applications (BOT* 218).

BOT: WORD PROCESSING OPTION**Associate in Science**

The demand for word processors is increasing yearly. Because word processing is a varied and multi-level career path, skilled employees have the opportunity to ascend the career ladder. To meet these growing needs, this option trains students to be supervisors in the word processing field. For more information, call the Program Coordinator, Marsha Janik, at (203) 285-2176 or e-mail her at mjanik@gwcc.commnet.edu.

PROGRAM REQUIREMENTS

General Education Requirements (see page 84)		21-22
Course #	Title	Credits
BBG* 231	Business Law	
or		3
BMG* 202	Principles of Management	
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* 215	Word Processing Applications II	3
BOT* 217	Desktop Publishing	3
BOT* 219	Integrated Office (S)	3
BOT* 220	Computerized Communication	3
BOT* 251	Administrative Procedures (F)	3
BOT* 252	Administrative Procedures II (S)	3
BOT* 295	Administrative Practicum (S)	3
Total Credit Hours		60-61

(F) Offered fall semester

(S) Offered spring semester

+ Students who satisfy the Keyboarding for Information Processing I (BOT* 111) requirements may substitute an elective after consultation with BOT faculty.

BOT: INFORMATION PROCESSING TECHNICIAN**Certificate**

This program is designed for managers who need to keep pace with changes in the workplace by providing hands-on experience with the leading word processing, database management, spreadsheet, and desktop publishing applications. Students will learn to enter, edit, store, manipulate, and print documents. The College uses the latest industry standard software applications for instruction, including Microsoft Office. For more information, call the Business Office Technology Program Coordinator, Marsha Janik, at (203) 285-2176 or e-mail her at mjanik@gwcc.commnet.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* 216	Spreadsheet Applications	3
BOT* 217	Desktop Publishing	3
BOT* 218	Database Applications	3
BOT* 220	Computerized Communication	3
Total Credit Hours		21

+ Those who are able to type 30 words per minute are not required to take this course.

BOT: WORD PROCESSING**Certificate**

The Word Processing certificate is a skill-oriented sequence of courses designed to prepare students for entry-level word processing positions. Courses focus on good keyboarding and transcription skills while instilling the fundamentals of business English and communications. Acquired skills will be applied in the word processing courses. For more information, call the Program Coordinator, Marsha Janik, at (203) 285-2176 or e-mail her at mjanik@gwcc.commnet.edu.

PROGRAM REQUIREMENTS

Course #	Title	Credits
BBG* 210	Business Communication	3
BOT* 111	Keyboarding for Information Processing I	
or		3
BOT* 219	Integrated Office (S)	
BOT* 112	Keyboarding for Information Processing II	3
BOT* 137	Word Processing Applications	3
BOT* 215	Word Processing Applications II	3
BOT* 216	Spreadsheet Applications	3
BOT* 220	Computerized Communication	3
BOT* 251	Administrative Procedures (F)	3
BOT* 252	Administrative Procedures II (S)	3
BOT* 295	Administrative Practicum (S)	<u>3</u>
	Total Credit Hours	30

(F) Offered fall semester

(S) Offered spring semester

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 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 **Technological 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 Technological Studies Pathway programs, call Professor Robert Tremblay at (203) 285-2185 (rtremblay@gwcc.commnet.edu).

ENGINEERING PATHWAY**Associate in Science**

Leading to the School of Engineering at the University of Connecticut, University of New Haven, University of Hartford, or Fairfield University

PROGRAM REQUIREMENTS**Freshman Year****Fall Semester**

Course #	Title	Credits
CAD 110	Computer Aided Drafting I	3
CHE* 121	General Chemistry I	4
ECN* 101	Macroeconomics	3
ENG* 101	Composition	3
MAT* 254	Calculus I	4
Total Semester Hours		17

Spring Semester

Course #	Title	Credits
CET 124	Structured Programming	4
CHE* 122	General Chemistry II	4
or, for students transferring to UNH in Mechanical and Electrical Engineering, any Psychology, Political Science, or Sociology course		
ENG* 102	Literature and Composition	3
HIS* 101	Western Civilization	3
MAT* 256	Calculus II	4
Total Semester Hours		18

Sophomore Year**Fall Semester**

Course #	Title	Credits
EGS 211	Statics	3
MAT* 268	Calculus III	4
PHL* 111	Ethics	3
PHY* 221	Calculus-Based Physics I	4
Elective	Art, Drama, or Music	3
Total Semester Hours		17

Spring Semester

Course #	Title	Credits
EGS 212	Dynamics	3
MAT* 285	Differential Equations	3
PHY* 222	Calculus-Based Physics II	4
Electives	Restricted +	6-7
Total Semester Hours		16-17
Total Credit Hours		68-69

+ Restricted electives should be chosen according to the proposed major at the designated School of Engineering. For example, ENG* 202 and EET 250 would suit Electrical Engineering pathway students and MEC 220 and MEC 222 would suit Mechanical Engineering pathway students. Consult with the Program Coordinator, Professor Robert E. Tremblay, at (203) 285-2185 (rtremblay@gwcc.commnet.edu or rtrembla@optonline.net).

TECHNOLOGY PATHWAY**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 Hours		16

Spring Semester

Course #	Title	Credits
CAD 110	Computer Aided Drafting I	3
ECN* 101	Macroeconomics	3
PHY*122	General Physics II	4
MAT* 187	Precalculus Mathematics	3
MEC 114	Mechanics-Statics	3
Total Semester 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 222	Materials Science	4
Elective	Art, Drama or Music	3
Total Semester Hours		17

Spring Semester

Course #	Title	Credits
CAD 210	Computer Aided Drafting II	4
HIS* 101	Western Civilization	3
Elective	Social Science	3
Electives	Technical +	6
Total Semester Hours		16
Total Credit Hours		65

+ Technical and Directed Electives: Consult with the Program Coordinator, Professor Robert Tremblay, at (203) 285-2185 (rtremblay@gwcc.commnet.edu) prior to registration.

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 code websites

COMPUTER SCIENCE

Associate in Science

Students enrolled in the Computer Science Technology program receive a broad programming background, including training in operating systems, 'C' Language, COBOL programming, Visual Basic, Web Design, 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, Frank Gallagher, at (203) 285-2169.

PROGRAM REQUIREMENTS

Freshman Year

Fall Semester

Course #	Title	Credits
CSC* 101	Introduction to Computers	3
CSC* 110	Computer Logic and Problem Solving	3
ENG* 101	Composition	3
MAT* 115	Mathematics for Science and Technology	3
Elective	Restricted +	3-4
Total Semester Hours		15-16

Spring Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
CSC* 201	COBOL I	3
CSC* 120	Windows/DOS/Microcomputers	3
Elective	Humanities	3
Elective	Restricted +	3-4
Total Semester Hours		15-16

Sophomore Year

Fall Semester

Course #	Title	Credits
CST* 120	Introduction to Operating Systems	3
CSC* 202	COBOL II	3
Elective	Fine Arts	3
Elective	Social Science	3
Elective	Restricted +	3-4
Total Semester Hours		15-16

Spring Semester

Course #	Title	Credits
CSA* 295	Computer Science Applications Practicum	3
or		
CSA* 296	CWA – Computer Applications	3
CSC* 250	Systems Analysis and Design	3
Elective	Natural Science	4
Elective	Restricted +	3-4
Elective	Restricted +	3-4
Total Semester Hours		16-18
Total Credit Hours		61-66

+ Restricted Electives— CSC* 150, CSC* 205, CSC* 208, CSC* 210, CSC* 212, CSC* 213, CSC* 223, CSC* 283, CST* 133, CST* 152, CST* 162, CST* 163, CST* 180, CST* 181, CST* 182, CST* 183, CST* 188, CST* 234 depending on emphasis major.

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, Frank Gallagher, at (203) 285-2169.

PROGRAM REQUIREMENTS

Fall Semester

Course #	Title	Credits
CSC* 110	Computer Logic and Problem Solving	3
CSC* 201	COBOL I	3
or		3-4
CSC* 223	JAVA Programming I	
CSC* 205	Introduction to Visual BASIC	4
	Total Semester Hours	13-14

Spring Semester

Course #	Title	Credits
CSC* 120	Windows/DOS/Microcomputers	3
CSC* 208	Advanced Visual BASIC	4
CSC* 202	COBOL II	
or		3
CSC* 213	Object Oriented Programming Using C++	
CST* 152	Introduction to Web Page and Design	3
	Total Semester Hours	13
	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 LMI, maps, and subinterfaces
- Identify ISDN protocols, function groups, reference points, and channels

PROGRAM REQUIREMENTS**First Semester**

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
MAT* 115	Mathematics for Science and Technology	3
CSC* 110	Computer Logic and Problem Solving	3
CSC* 101	Introduction to Computers	3
Elective	Restricted Networking +	<u>3-4</u>
Total Semester Hours		15-16

Second Semester

Course #	Title	Credits
ENG* 101	Composition	3
CSC* 120	Windows/DOS/Microcomputers	3
CSC* 201	COBOL I	3
Elective	Humanities	3
Elective	Restricted Networking +	<u>3-4</u>
Total Semester Hours		15-16

Third Semester

Course #	Title	Credits
CSC* 250	Systems Analysis and Design	3
CSC* 202	COBOL II	3
Elective	Natural Science	4
Elective	Restricted Networking +	3-4
Elective	Restricted Networking +	<u>3-4</u>
Total Semester Hours		16-18

Fourth Semester

Course #	Title	Credits
CSA* 295	Computer Science Applications Practicum	
or		3
CSA* 296	CWE - Computer Applications	3
Elective	Social Science	3
Elective	Fine Arts Elective	3
Elective	Restricted Networking +	3-4
Elective	Restricted Networking +	<u>3-4</u>
Total Semester Hours		15-17
Total Credit Hours		61-67

+ Electives

CST* 133, 162, 163, 180, 181, 182, 183, 188, 234; and CET 220

COMPUTER SCIENCE**Certificate - Networking**

The objective of the 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. The graduating student will leave Gateway Community College with three industry-recognized networking certifications: Certified Cisco Network Engineer; Network+; and Novell Certified Network Administrator.

PROGRAM REQUIREMENTS

Course #	Title	Credits
CSC* 101	Introduction to Computers	3
CSC* 234	Network +	3
CST* 133	Introduction to Networking	3
CST* 180	Networking I	4
CST* 181	Networking II	4
CST* 182	Networking III	4
CST* 183	Networking IV	<u>4</u>
Total Credit Hours		25

DRUG AND ALCOHOL RECOVERY COUNSELOR

DRUG AND ALCOHOL RECOVERY COUNSELOR MISSION

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 year-long internship*.

Students who complete the DARC courses will have met all current Connecticut Certification Board training requirements in preparation 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 drug and alcohol 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 interview and screening process that is separate from general admission to the College. Enrollment in DAR* 101 and DAR* 111 is required before applying to the Internship. The program courses, DAR* 101, 111, 112, 114, 158 and 213, 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, call the Program Coordinator, Lauren Doninger, at (203) 285-2321 (ldoninger@gwcc.commnet.edu). Visit the DARC website at www.recoverycounselor.org.

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 12 Core Functions 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 alcohol and drug recovery fields
- Apply principles of literacy and information technology to enhance the functions of recovery counseling.

PROGRAM REQUIREMENTS

First Semester

Course #	Title	Credits
DAR* 101	Public Health Issues: Abuse & Addiction	3
DAR* 111	Addiction Counseling I	3
DAR* 114	Introduction to Family Systems	3
ENG* 101	Composition	3
PSY* 111	General Psychology I	3
Total Semester Hours		15

Second Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
DAR* 112	Group Counseling: Theory & Techniques	3
DAR* 158	Biology of Addiction	3
DAR* 213	Addiction Counseling II	3
Elective	Restricted + (ENG)	3
Total Semester Hours		15

Third Semester

Course #	Title	Credits
BIO* 110	Principles of the Human Body	3
DAR* 251	Counseling Internship I	6
Elective	Restricted + (PSY* 245)	3
Elective	Computer Literacy	3
Total Semester Hours		15

Fourth Semester

Course #	Title	Credits
DAR* 252	Counseling Internship II	6
MAT* 123	Elementary Statistics (or higher)	3
Elective	Fine Arts	3
Elective	Humanities	3
Total Semester Hours		15
Total Credit Hours		60

+ Admission to the Counseling Internship is selective, based on a rigorous admission process.

SUBSTANCE ABUSE 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 alcohol and drug 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, call the Program Coordinator, Lauren Doninger, at (203) 285-2321 (ldoninger@gwcc.commnet.edu). Visit the DARC website at www.recoverycounselor.org.

PROGRAM REQUIREMENTS

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 Hours		9

Spring Semester

Course #	Title	Credits
DAR* 112	Group Counseling: Theory & Techniques	3
DAR* 158	Biology of Addiction	3
DAR* 114	Introduction to Family Systems	3
DAR* 213	Addiction Counseling II	3
Total Semester Hours		12
Total Credit Hours		21

EARLY CHILDHOOD EDUCATION

EARLY CHILDHOOD EDUCATION

Associate in Science

Early Childhood Education focuses on the education, language, culture, development and care of young children. As a profession, ECE has emerged as one of the major vehicles for child advocacy in the provision of accessible, high-quality child care and pre-school education.

The Early Childhood Education program is designed to prepare qualified students for careers in professional child-care as teachers, assistant teachers or family day-care providers. All ECE students follow a sequence of classes and laboratory experiences that increase their ability to assess the developmental skills of young children, and to facilitate their education and care. Emphasis is also given to philosophies of education, program standards and professional trends and developments.

The Early Learning Center at the Long Wharf Campus and pre-school programs in the surrounding communities offer onsite laboratory facilities for our students.

An associate degree and two 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, Susan Logston, at (203) 285-2187 (slogston@gwcc.commnet.edu). For scholarship information, contact CT Charts a Course at 1 800 832-7784 or (203) 397-4036.

EARLY CHILDHOOD EDUCATION ASSOCIATE DEGREE

The Early Childhood 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	Literature and Composition	3
PSY* 111	General Psychology I	3
Elective	Natural Science	3-4
Elective	Computer Literacy	
or		3
ECE* 110	Using Computers in ECE	3
Elective ++	Mathematics	3
Elective +	Fine Arts	

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

		Credits
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
Elective +	Early Childhood Education (see below)	3
ECS* 107	Introduction to Exceptional Children Seminar I	4
PSY* 122	Child Growth & Development	3
		<hr/> 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.

Requirements:

HIS* 201, U.S. History I
Electives

Credits

3
9

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 a preschool setting and desire to improve their knowledge and competency.

Requirements:

Early Childhood Electives

Credits

12

+ 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
SOC* 111	Family, Child and Community Health	3

Students are advised to consult the catalog of the transferring institution for appropriate choices.

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, Susan Logston, at (203) 285-2187 (slogston@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
ECE* 101	Introduction/Early Childhood Education	3
ECE* 180	Child Development Associate Credential	3
PSY* 122	Child Growth and Development	3
Total Credit Hours		9

TEACHER ASSISTANT

Certificate

This program prepares students to be assistant teachers and teacher aides in the child 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, Susan Logston, at (203) 285-2187 (slogston@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
ECE* 101	Introduction/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* 114	Children's Literature	3
ENG* 101	Composition	3
PSY* 122	Child Growth and Development	3
SOC* 111	Family, Child and Community Health	3
or		
ECE* 180	Child Development Associate Credential	3
Total Credit Hours		31

EARLY CHILDHOOD EDUCATION PROGRAM OUTCOMES

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

- Understand current and historical philosophical and theoretical approaches to early childhood education
- Understand ethical issues in the field
- Develop a personal philosophy of early childhood education
- Plan and implement age appropriate and individually appropriate activities and curricula
- Possess a knowledge of child development
- Use children's literature to develop language and literacy
- Plan activities in the areas of art, music, movement, mathematics, science, social studies, and language arts
- Understand children with special needs
- Understand the nature and needs of young children with respect to cultural and developmental diversity
- Describe the role of the early childhood teacher
- Understand health and safety issues related to young children in an educational setting
- Understand the organization and composition of early childhood education settings
- Observe, record, and assess young children from diverse cultural backgrounds in applied settings and across different developmental areas
- Understand positive approaches to discipline
- Understand current issues and trends that affect young children and their families, including legal issues, logistic, and public policies
- Be familiar with opportunities for professional growth
- Understand the dynamics of establishing and maintaining positive, collaborative relationships with families
- Understand the role of play in the growth process and the role of the teacher in enhancing play
- Understand the importance of working cooperatively with other staff members to form an effective teaching team
- Demonstrate sensitivity to the needs of young children from diverse backgrounds and with special needs
- Plan and implement curricula that are consistent with developmentally appropriate practice, that are multi-ethnic in nature, and that reflect the needs of children who are developmentally diverse
- Be familiar with community resources that serve children
- Help children express themselves in acceptable ways
- Participate in student teaching experiences and apply teaching techniques
- Demonstrate effectiveness as a teacher as evaluated by supervising teachers and college faculty
- Evaluate himself or herself as a teacher

EARLY CHILDHOOD SPECIAL EDUCATION

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

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 (ekirkland@gwcc.commnet.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
ECE* 110	Using Computers in Early Childhood Education	3
or		
Elective	Computer Literacy	3
ENG* 101	Composition	3
ENG* 102	Literature and Composition	3
MAT* 109	Quantitative Literacy	3
PSY* 111	General Psychology I	3
Elective	Fine Arts	3
		<u>25</u>

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 I	3
PSY* 122	Child Growth and Development	3
PSY* 105	Group Dynamics	3
Electives	Restricted +	9-10
	Total Credit Hours	<u>65-66</u>

*Restricted Electives:

Course #	Title	Credits
ECE* 103	Creative Experiences/Children	3
ECE* 106	Music and Movement for Children	3
ECE* 109	Science and Math for Children	3
ECE* 206	Administration and Supervision of Early Childhood Prog.	3
ECE* 142	Developmental Interventions for Infants and Toddlers	3
ECE* 241	Methods and Techniques for Infant/Toddler	3
ECE* 141	Infant and Toddler Growth Development	3
ECE* 123	Introduction to Family Support and Respite Care	4
ECE* 121	First Aid, CPR and Medication Administration	1
ENG* 114	Children's Literature	3
PSY* 214	Advanced Child Growth and Development	3
PSY* 245	Abnormal Psychology	3
PSY* 258	Behavior Modification	3
SOC* 111	Family, Child and Community Health	3
SPA* 101	Introduction to Spanish	3

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 (ekirkland@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
ECE* 110	Using Computers in Early Childhood Education	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	Diagnostic Assessment of Children with Special Needs	3
or		3
Elective +	Directed	
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
ECS* 113	Creative Art/Play for Exceptional Children	3
ECE* 206	Administration and Supervision of Early Childhood Prog.	3
ENG* 114	Children's Literature	3
PSY* 258	Behavior Modification	3
PSY* 245	Abnormal Psychology	3
PSY* 214	Advanced Child Growth and Development	3
SOC* 111	Family, Child and Community Health	3
SPA* 101	Introduction to Spanish	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 Credits		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		<u>6-8</u>
		28-30

Electives: (minimum 6 to 8 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	Dynamics of Group Behavior	3
PSY* 122	Child Growth and Development	3
PSY* 258	Behavior Modification	3

ENGINEERING TECHNOLOGY

BIOMEDICAL ENGINEERING TECHNOLOGY *(Program has not been offered for the past two years)*

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 possess 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 (tmcgrath@gwcc.commnet.edu).

PROGRAM REQUIREMENTS**Freshman Year****Fall Semester**

Course #	Title	Credits
BME* 110	Biomedical Technology	2
BME* 112	Biomedical Electrical Circuits	5
CHE* 111	Concepts of Chemistry	4
CET 116	Computer Applications for Technology	3
ENG* 101	Composition	3
MAT* 175	College Algebra and Trigonometry	3
Total Semester Hours		20

Spring Semester

Course #	Title	Credits
BME* 114	Biomedical Electronics	5
BME* 116	Physiological Systems	4
COM* 171	Fundamentals of Human Communication	3
MAT* 187	Precalculus Mathematics	3
PHY* 121	General Physics 1	4
Total Semester Hours		19

Sophomore Year**Fall Semester**

Course #	Title	Credits
BME* 210	Biomedical Instrumentation	4
EET 250	Digital Electronics	4
MAT* 254	Calculus 1	4
Elective	Humanities	3
Total Semester Hours		15

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 Hours		14
Total Credit Hours		68

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 Thomas Adams at (203) 285-2377 (tadams@gwcc.commnet.edu).

PROGRAM REQUIREMENTS**Freshman Year****Fall Semester**

Course #	Title	Credits
CET 116	Computer Applications for Technology	3
CET 110	DC/AC Circuits	5
ENG* 101	Composition	3
ETC 110	Electrical Graphics/CAD	3
MAT* 175	College Algebra and Trigonometry	<u>3</u>
Total Semester Hours		17

Spring Semester

Course #	Title	Credits
CET 120	Computer Electronics	5
CET 124	Structured Programming	4
MAT* 187	Precalculus Mathematics	3
EET 250	Digital Electronics	<u>4</u>
Total Semester Hours		16

Sophomore Year**Fall Semester**

Course #	Title	Credits
CET 210	Computer Systems Software	4
COM* 171	Fundamentals of Human Communication	3
EET 252	Microprocessors	4
PHY* 121	General Physics I	4
Elective	Mathematics	<u>3</u>
Total Semester Hours		18

Spring Semester

Course #	Title	Credits
CET 220	Digital/Data Communications	4
Elective	Social Science	3
Elective	Humanities	3
Elective	Mathematics	3
Elective	Technical	<u>4</u>
Total Semester Hours		17
Total Credit Hours		68

COMPUTER SERVICING

Certificate

The Computer Servicing Certificate Program will be a collection of courses in the Computer Engineering Technology area. It will be sequenced as a one-year introductory certificate program that could lead to an Associate Degree. This Certificate Program is important to achieving the knowledge necessary to pass the CompTIA A+ certification examinations – required for many entry-level computer technician positions within Connecticut companies. Students will receive a sufficient background in the software, hardware, and trouble-shooting to accomplish the course objectives. The Computer Servicing Certificate will differ in focus from degree courses because it will focus on getting students employed quickly with necessary job skills.

COMPUTER SERVICING PROGRAM OUTCOMES

The primary goal is to provide students with a learning experience that is satisfactory in quality, scope, and relevance. Students enrolling in the Computer Servicing Certificate Program will experience the curriculum, instruction, and faculty guidance that have earned our College statewide recognition. Upon completion of this Certificate Program, students will share the knowledge, skills, and professionalism that have made our graduates leaders in the fields of computer and electrical technology for more than three decades.

This certificate program is important to achieving the knowledge necessary to pass the CompTIA A+ certification examinations – required for many entry-level computer technician positions within Connecticut companies. Several for-profit companies offer similar programs leading to this certification, but these programs are concentrated in time and do not lead to any further degrees.

PROGRAM REQUIREMENTS

Course #	Title	Credits
CET 116	Computer Applications for Technology	3
CET 126	Computer Servicing	4
CET 210	Computer Systems Software	<u>4</u>
	Total Credits	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 personal computers 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
- Know and use basic 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 a circuit-modeling program to evaluate complex circuits
- Use personal 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. The program has been granted national accreditation by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET). For more information, call the Electrical Engineering Technology Program Coordinator, Donald Lostritto, at (203) 285-2372 (dlostritto@gwcc.commnet.edu).

PROGRAM REQUIREMENTS**Freshman Year****Fall Semester**

Course #	Title	Credits
CET 116	Computer Applications for Technology	3
EET 111	CAD: Electrical	1
EET 120	Electric Circuits I	4
ENG* 101	Composition	3
MAT* 175	College Algebra and Trigonometry	<u>3</u>
Total Semester Hours		14

Spring Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
EET 122	Electric Circuits II	4
EET 130	Electronics I	4
MAT* 187	Precalculus Mathematics	3
PHY* 121	General Physics I	<u>4</u>
Total Semester Hours		18

Sophomore Year**Fall Semester**

Course #	Title	Credits
EET 230	Electronics II	4
EET 240	Electrical Machinery and Controls	4
EET 250	Digital Electronics	4
MAT* 254	Calculus I	4
Elective	Humanities	<u>3</u>
Total Semester Hours		19

Spring Semester

Course #	Title	Credits
EET 252	Microprocessors	4
EET 260	Electronic Communications	4
EET 295	EET Internship	3
Elective	Social Science	3
Elective	Science	<u>3</u>
Total Semester Hours		17
Total Credit Hours		68

ELECTRONICS TECHNICIAN

Certificate

The Electronics Technician Certificate program is designed for students who wish to simultaneously pursue employment in the electronics industry and attend classes. Students acquire a solid academic background and industrial skills to work with basic hand tools; soldering tools; electronic instrumentation; electrical, electronic, and computer circuits. They will also use the latest CAD software to design electronic circuits and systems. Courses in the ETC program prepare students for the National CompTIA Computer Technicians A+ certification examination. For more information, call the Program Coordinator, Donald Lostritto, at (203) 285-2372 (dlostritto@gwcc.commnet.edu).

ELECTRONICS TECHNICIAN CERTIFICATE PROGRAM OUTCOMES

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

Demonstrate and understand the role and function of basic hand tools in preparing electrical and electronic devices for the construction of circuits and systems

Describe the various testing and instrumentation devices used to measure circuit parameters within an electronic circuit and system

Construct basic electrical and electronic circuits from a schematic

Use CAD software to draw and simulate electrical and electronic circuit operation

PROGRAM REQUIREMENTS

Fall Semester

Course #	Title	Credits
CET 116	Computer Applications for Technology	3
ETC 104	Fundamentals of Electricity	4
ETC 110	Electrical Graphics/CAD	3
	Total Semester Hours	10

Spring Semester

Course #	Title	Credits
CET 126	Computer Servicing	4
CET 210	Computer Systems Software	4
ETC 122	Electronic Circuits and Devices	4
	Total Semester 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, Roy Francis, at (203) 285-2368 (rfrancis@gwcc.commnet.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
CET 116	Computer Applications for Technology	3
ARC* 133	Technical Drafting	3
ENG* 101	Composition	3
MFG 110	Manufacturing Processes	3
MAT* 175	College Algebra and Trigonometry	3
Total Semester Hours		15

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 Hours		17

Sophomore Year

Fall Semester

Course #	Title	Credits
CAD 110	Computer Aided Drafting I	3
ETC 104	Fundamentals of Electricity	4
PHY*122	General Physics II	4
Elective	Humanities	3
Elective	Technical	4
Total Semester Hours		18

Spring Semester

Course #	Title	Credits
MEC 114	Mechanics/Statics	3
Elective	Social Science	3
Elective	Open	3
Elective	Technical	4
Total Semester 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. Students entering the Manufacturing Engineering Technology program should plan on spending approximately \$60.00 on drafting equipment. For more information, call the Engineering Technology Program Coordinator, Dr. Tsu-Chien Cheu, at (203) 285-2374 (tcheu@gwcc.commnet.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 110#	Manufacturing Processes	3
MAT* 175	College Algebra and Trigonometry	3
Total Semester Hours		15

Spring Semester

Course #	Title	Credits
CAD 110	Computer Aided Drafting I	3
ENG* 101	Composition	3
MFG 112	Computer Aided Manufacturing I	4
MAT* 187	Precalculus Mathematics	3
PHY* 121	General Physics I	4
Total Semester Hours		17

Sophomore Year**Fall Semester**

Course #	Title	Credits
CAD 210	Computer Aided Drafting II	4
MFG 212	Computer Aided Manufacturing II	4
Elective	Physical Science/Mathematics +	4
Elective	Restricted ++	3
Elective	Social Science	<u>3</u>
Total Semester Hours		18

Spring Semester

Course #	Title	Credits
MFG 220	Process Engineering	4
MFG 224	Tool Design	4
MFG 228	Statistical Process Control	3
MFG 246	Manufacturing Internship	3
Elective	Humanities	<u>3</u>
Total Semester Hours		17
Total Credit Hours		67

#	Corequisites	
+	PHY*122	General Physics II, or
	MAT* 254	Calculus I
++	MFG 111	Geometric Dimensioning and Tolerancing, or
	MFG 114	Principles of Quality Control or
	MFG 210	Materials of Engineering

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. Students enrolling in the Quality Control Certificate program should plan on spending approximately \$60.00 on drafting equipment. For more information, call the Program Coordinator, Dr. Tsu-Chien Cheu, at (203) 285-2374 (tcheu@gwcc.commnet.edu).

PROGRAM REQUIREMENTS**Fall Semester**

Course #	Title	Credits
ARC* 133	Technical Drafting	3
MFG 114	Principles of Quality Control	3
MAT* 175	College Algebra and Trigonometry	<u>3</u>
Total Semester Hours		9

Spring Semester

Course #	Title	Credits
MFG 110	Manufacturing Processes	3
MFG 111	Geometric Dimensioning and Tolerancing	3
MFG 228	Statistical Process Control	<u>3</u>
Total Semester 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 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

This program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET). 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 (cukah@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Freshman Year

Fall Semester

Course #	Title	Credits
CAD 110	Computer Aided Drafting I	3
ARC* 133	Technical Drafting	3
MAT* 175	College Algebra and Trigonometry	3
MFG 110	Manufacturing Processes	3
PHY* 121	General Physics I	<u>4</u>
Total Semester Hours		16

Spring Semester

Course #	Title	Credits
ENG* 101	Composition	3
MAT* 187	Precalculus Mathematics	3
MEC 114	Mechanics/Statics	3
MEC 222	Materials Science	4
Elective	Science (Restricted)	3
Elective	Fine Arts	<u>3</u>
Total Semester Hours		19

Sophomore Year**Fall Semester**

Course #	Title	Credits
MEC 234	Electromechanical Controls	4
MAT* 254	Calculus I	4
MEC 220	Strength of Materials	3
MEC 236	Fluid Mechanics	4
Elective	Social Science	3
Total Semester Hours		18

Spring Semester

Course #	Title	Credits
MEC 230	Machine Design	4
COM* 171	Fundamentals of Human Communication	3
CET 116	Computer Applications for Technology	3
MEC 290	Mechanical Engineering Internship	2
Elective	Humanities	3
Total Semester 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 (cukah@gwcc.commnet.edu).

PROGRAM REQUIREMENTS**Fall Semester**

Course #	Title	Credits
CAD 110	Computer Aided Drafting I	3
ARC* 133	Technical Drafting	3
ENG* 101	Composition	3
MFG 110	Manufacturing Processes	3
MAT* 175	College Algebra and Trigonometry	3
Total Semester Hours		15

Spring Semester

Course #	Title	Credits
CAD 210	Computer Aided Drafting II	4
CET 116	Computer Applications for Technology	3
COM* 171	Fundamentals of Human Communication	3
MFG 111	Geometric Dimension and Tolerancing	3
Total Semester Hours		13
Total Credit Hours		28

TELECOMMUNICATIONS TECHNOLOGY

Associate in Applied Science

The Telecommunications Technology program trains students to be highly-skilled technicians for the telecommunications industry. The program is based on program development done by the National Center for Telecommunications Technology (NCTT) and covers three broad areas: Internetworking, Wireless, and Fiber Optics.

The four Internetworking courses follow the Cisco Academy course structure with a strong emphasis on cabling, cabling tools, routers, Ethernet, Internet Protocol (IP) addressing, and network standards, stressing the hardware portion of the training. These courses also focus on networking terminology and protocols, Local Area Networks (LANS), Wide-Area Networks (WANS), the Open System Intercommunication Reference (OSI) model, along with preparing students to take the Cisco CCNA exams and the CompTIA network exam. NCTT instruction and training deals with the proper care, maintenance, and use of networking tools and equipment. These courses also require a Structured Cabling Case Study and Installation Project.

The Fiber Optics covers the high bandwidth and low attenuation characteristics for high-speed data transmission. Emphasis on cable testing terminology and concepts, the operation of Ethernet and structured cabling resource materials, along with cable-making, building small networks, and interconnecting devices.

The Wireless System/Network covers the fundamental concepts of modulation, signals, spectra, bandwidth, filters, and multiplexing.

TELECOMMUNICATIONS TECHNOLOGY PROGRAM OUTCOMES

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

- Identify and use appropriate tools, testing and measurement equipment to accomplish tasks related to the occupation
- Demonstrate workplace skills related to the occupation including but not limited to: maintaining a safe and healthy workplace environment, demonstrating workplace ethics and teamwork.
- Use current reference and training materials from accepted industry publications and standards to accomplish certain tasks related to the occupation.
- Apply knowledge of theory and safety to accomplish certain tasks related to the occupation.
- Apply Language Arts and Communications skills related to the occupation, including but not limited to: reading, writing and oral communication.
- Apply knowledge of computer applications including work processing, graphs and other software related to the occupation.
- Use scientific methods and critical thinking to solve problems in science related to the occupation including but not limited to: electricity, chemical reactions, heat motion and hydraulics.
- Perform mathematics related to the occupation including but not limited to: algebraic expressions, arithmetic, decimals and graphs.

PROGRAM REQUIREMENTS**Freshman Year****Fall Semester**

Course #	Title	Credits
CET 110	Electric Circuits	3.5
CET 116	Computer Applications for Technology	3
CST* 180	Networking I	4
TEC 105	Introduction to Telecommunications	3
Elective	Social Science	<u>3</u>
Total Semester Hours		16.5

Spring Semester

Course #	Title	Credits
COM* 171	Fundamentals of Communication	3
CST* 181	Networking II	4
MAT* 115/137	Mathematics +	3
TEC 114	Telecommunications Electronic Circuits	3.5
Elective	Fine Arts	<u>3</u>
Total Semester Hours		16.5

Sophomore Year**Fall Semester**

Course #	Title	Credits
CST* 182	Networking III	4
ENG* 101	Composition	3
MAT* 137/175	Mathematics +	3
TEC 207	Telecommunications Digital Electronics	3.5
TEC 215	Telecommunications Fiber Optics	<u>3.5</u>
Total Semester Hours		17

Spring Semester

Course #	Title	Credits
CST* 183	Networking IV	4
PHY* 109/121	Physics +	4
TEC 224	Telecommunications Wireless Communications	3.5
TEC 290	Telecommunications Internship – Engineering Technology (course option)	3
Elective	Humanities	<u>3</u>
Total Semester Hours		17.5
Total Credit Hours		67.5

+ Please see advisor for appropriate courses depending on career goal.

ENTREPRENEURIAL STUDIES

ENTREPRENEURIAL STUDIES

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, at (203) 285-2198 (rbednarz@gwcc.commnet.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
BOT* 216	Spreadsheet Applications	
or		3
CSC* 101	Introduction to Computers	
COM* 171	Fundamentals of Human Communications	3
ENG* 101	Composition	3
MAT* 137 +	Intermediate Algebra	3
PSY* 111	General Psychology I	
or		3
SOC* 101	Sociology	
Elective	Natural Science	3-4
Elective	Humanities	<u>3</u>
Total General Education Requirements Credits		21-22

+ Or another math course approved by instructor

PROGRAM REQUIREMENTS

Course #	Title	Credits
ACC* 113	Principles of Financial Accounting	3
BBG* 210	Fundamentals of 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	<u>6</u>
Total Credit Hours		60-61

ENTREPRENEURIAL STUDIES**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, at (203) 285-2198 (rbednarz@gwcc.commnet.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* 201	Principles of Marketing	3
BMK* 215	Principles of eBusiness	3
Electives	Business	6
	Total Credit Hours	24

GENERAL STUDIES

GENERAL STUDIES

Associate in Science

The General Studies curriculum provides a broad, general base upon which students may build. Additional study may be necessary for students who wish to pursue a particular career or specific program. The General Studies curriculum offers students the broadest range of electives of any degree program offered by the College. It is particularly attractive to those who have not yet decided on a specific academic or career goal and to those who wish to structure a degree program to meet individual needs.

GENERAL STUDIES PROGRAM OUTCOMES

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

- Demonstrate competence in written and oral communication
- Think critically and logically
- Understand and appreciate the aesthetic and ethical dimensions of humankind
- Demonstrate a capacity for continued learning

Students who plan to transfer into a four-year institution should consult with a counselor regarding their choice of electives and the transferability of courses. Students who have not decided on a specific academic or career goal may enroll in the General Studies (Exploratory) Program. Such students will be notified of workshops and other activities intended to help them make career and educational decisions. Students are encouraged to take the one-credit Career Planning course (HDV 103) and work closely with a Career Counselor to take advantage of interest testing and the career information in the Career Services Center.

For more information, contact the Humanities Department Chairperson, Chester Schnepf at (203) 285-2205 (cschnepf@gwcc.commnet.edu) or the Social Science Department Chairperson, Daniel Courcey, at (203) 285-2152 (dcourcey@gwcc.commnet.edu).

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
ENG* 101	Composition	3
COM* 171	Fundamentals of Human Communication	3
MAT* 109	Quantitative Literacy	3
(or another degree credit math course recommended by the academic advisor)		
Elective	Computer Literary	3
Elective	Social Science	3
Elective	Humanities	3
Elective	Natural Science	3-4
		21-22

PROGRAM REQUIREMENTS

Course #	Title	Credits
ENG* 102	Literature and Composition	3
Electives	Social Science	12
Elective	Science or Mathematics	3
Open Electives +		21
Total Credit Hours		60-61

+ For a list of electives see pp. 44-45.

HOSPITALITY MANAGEMENT

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 control, 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.

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 (sfries@gwcc.commnet.edu).

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
ENG* 101	Composition	3
COM* 171	Fundamentals of Human Communication	3
MAT* 109	Quantitative Literacy	3
ENG* 102	Literature and Composition	3
PSY* 111	General Psychology I	3
Elective	Natural Science	3-4
Elective	Computer Literacy	3
		<hr/>
		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 (F)	4
HSP* 202	Catering and Event Management	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
		<hr/>
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 (sfries@gwcc.commnet.edu) or Culinary Arts Instructor Andrew Randi at (203) 285-2154 (arandi@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

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	2
		<hr/>
Total Semester Hours		16

Spring Semester

Course #	Title	Credits
HSP* 201	International Foods	4
HSP* 202	Catering and Event Management (S)	3
HSP* 215	Baking and Pastry Arts II (S)	4
HSP* 295	Work Experience/Internship	3
		<hr/>
Total Semester 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.

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.

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 (sfries@gwcc.commnet.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 Management (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 (sfries@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Course #	Title	Credits
BBG* 210	Business Communication	3
or		
COM* 171	Fundamentals of Human Communication	3
BMK* 215	Principles of eBusiness	3
HSP* 100	Introduction to the Hospitality Industry	3
HSP* 231	Hospitality Law	3
HSP* 237	Hospitality Marketing	3
HSP* 244	Meetings, Conventions and Special Events Management (S)	3
Elective +		3
Total Credit Hours		21

+ **Elective** (choose one of the following):

Course #	Title	Credits
BOT* 216	Spreadsheet Applications	3
BOT* 218	Database Applications	3
BOT* 220	Computerized Communication	3

HUMAN SERVICES

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 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	Principles of the Human Body	
or		3-4
BIO* 115	Human Biology	
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 Literacy	3

PROGRAM REQUIREMENTS

Course #	Title	Credits
HSE* 101	Introduction to Human Services	3
HSE* 271+	Field Work Seminar I (F)	3
HSE* 272++	Field Work Seminar II (S)	3
HSE* 281+	Human Services Field Work I (F)	3
HSE* 282++	Human Services Field Work II (S)	3
POL* 111	American Government	3
PSY* 105	Group Dynamics	3
PSY* 245++	Abnormal Psychology	3
PSY* 231+++	Theories/Methods of Counseling/Therapy (F)	3
PSY* 232	Methods/Practice of Counseling/Therapy (S)	3
SOC* 101	Principles of Sociology	3
SOC* 104	Marriage and Family	
or		3
SOC* 111	Family, Child and Community Health	
SOC* 176	Methods of Social Research and Change	3
	Total Credit Hours	60-61

(F) Offered fall semester

(S) Offered spring semester

+ or ++ Corequisites: must be taken in the same semester

Prerequisite for PSY* 245

++ Prerequisite for PSY* 231/232 sequence

+++ Prerequisite for PSY* 232

HUMAN SERVICES CONTINUED STUDY

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
ANT* 105	Introduction to Cultural Anthropology	3
BIO* 105	Introduction to Biology	
or		4
BIO* 121	General Biology I	
COM* 171	Fundamentals of Human Communication	3
ENG* 101	Composition	3
MAT* 109*+	Quantitative Literacy	3
PHL* 101	Introduction to Philosophy	3
Elective	Computer Literacy	3

PROGRAM REQUIREMENTS

Course #	Title	Credits
ENG* 102	Composition II: Intro to Literature	3
HIS* 101	Western Civilization I	
or		3
HIS* 102	Western Civilization II	
HSE* 101	Introduction to Human Services	3
HSE* 271*	Field Work Seminar I (F)	3
HSE* 281*	Human Services Field Work I (F)	3
or		
HSE* 272**	Field Work Seminar II (S)	3
HSE* 282**	Human Services Field Work II (S)	3
POL* 111	American Government	3
PSY* 111+	General Psychology I	3
PSY* 105	Group Dynamics	3
PSY* 245	Abnormal Psychology	3
SOC* 101	Principles of Sociology	3
SOC* 104	Sociology of the Family	
or		3
SOC* 111	Family, Child, and Community Health	
SOC* 117	Minorities in the U.S.	3
Elective	Fine Arts (Art or Music History and Appreciation)	3
Total Credit Hours		61

(*) or (**) Corequisites: must be taken in the same semester

*+ A higher level math course may be substituted

+ Prerequisite for PSY* 235

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 Associate Professor Theresa Jeffries at (203) 285-2106.

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* 111	Introduction of Psychology	3
PSY* 105	Group Dynamics	3
PSY* 245	Abnormal Psychology	3
SOC* 101	Principles of Sociology	3
Elective		3
Total Credit Hours		30

(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	Quantitative Literacy	3
PSY* 111+	General Psychology I	3
Electives	Computer Literacy	3

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
HSE* 272**	Field Work Seminar II (S)	3
HSE* 282**	Human Services Field Work II (S)	3
POL* 111	American Government	3
PSY* 109	Psychology of Aging (S)	3
PSY* 231++	Theories and Methods Counseling and Therapy (F)	3
PSY* 232	Methods and Practice Counseling and Therapy (S)	3
PSY* 245+	Abnormal Psychology	3
SOC* 101	Principles of Sociology	3
SOC* 114	Sociology of Aging (F)	3
Gerontology Elective (select ONE)		
HSE* 247	Supervisors' Seminar	3
PSY* 210	Death and Dying	3
SOC* 115	Nutrition and Aging	3
Total Credit Hours		60

(F) Offered fall semester

(S) Offered spring semester

(*) or (**) Corequisites: must be taken in the same semester

+ Prerequisite for PSY* 231/232 sequence

++ Prerequisite for PSY* 232

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 Associate Professor Theresa Jeffries at (203) 285-2106.

PROGRAM REQUIREMENTS

Course #	Title	Credits
BIO* 113	Physiology of Aging	3
PSY* 109	Psychology of Aging (S)	3
SOC* 114	Sociology of Aging (F)	3
Electives	(Choose two from below)	<u>6</u>
Total Credit Hours		15

Electives

Course #	Title	
HSE* 247	Supervisors' Seminar (S)	3
PSY* 210	Death and Dying	3
SOC* 115	Nutrition and Aging (S)	3

(F) Offered fall semester

(S) Offered spring semester

PRE-SERVICE CORRECTION

Certificate

The Pre-Service Correction program prepares students for entry into the state of Connecticut's Department of Correction as a Correctional Trainee. The certificate requires 15 semester hours of college study. The Department of Administrative Services grants program graduates a waiver for the Department of Correction's written entrance examination. Upon successful completion of this program, the Department of Correction will require candidates to pass the remaining tests in order to be employed. For more information, call Associate Professor Theresa Jeffries at (203) 285-2106.

PRE-SERVICE CORRECTION CERTIFICATE PROGRAM OUTCOMES:

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

Explain the history and development of the system of corrections in the U.S.A.

Demonstrate work skills relevant to the Connecticut Department of Correction

Explain how deviancy is interpreted as a product of society

Evaluate the various explanations of deviancy

Explain such contemporary correctional issues as prisoners' rights, overcrowding, prison building, early release programs, the cost of corrections, the privatization of the correction system, and the changing emphasis in correctional theory

Cite ways in which social forces influence and affect the correctional system

Present oral reports in front of a group

PROGRAM REQUIREMENTS

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
CJS* 102	Introduction to Corrections	3
ENG* 202	Technical Writing (F)	3
HSE* 281	Human Services Field Experience (F)	
or		3
HSE* 282	Human Services Field Experience (S)	
SOC* 203	Social Problems	<u>3</u>
Total Credit Hours		15

(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 Associate Professor Theresa Jeffries at (203) 285-2106.

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	(select one from list below)	<u>3</u>
Total Credit Hours		18

Electives:

Course #	Title	Credits
PSY* 109	Psychology of Aging (S)	3
PSY* 210	Death and Dying	3
SOC* 114	Sociology of Aging (F)	3
SOC* 115	Nutrition and Aging (S)	3

(F) Offered fall semester

(S) Offered spring semester

YOUTH WORKER

Certificate

Gateway is the first community college in Connecticut to offer this certificate. Our program is part of a national movement to support 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.

The Youth Worker Certificate is recognized by the Connecticut Certification Board for credit toward a Prevention Professional Certification. 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 Associate Professor Theresa Jeffries at (203) 285-2106.

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* 281	Human Service Field Experience I	3
or		
HSE* 282	Human Service Field Experience II	3
PSY* 105	Group Dynamics	3
SOC* 101	Principles of Sociology	3
Elective	Computer Literacy	3
Elective	Restricted +	<u>3</u>
Total Credit Hours		30

+ Electives (choose one of the following):

Course #	Title	Credits
ECE* 101	Introduction to Early Childhood Education	3
PSY* 247	Industrial and Organizational Psychology	3
SOC* 104	Sociology of the Family	3
SOC* 230	The City	3

LIBERAL ARTS

LIBERAL ARTS

Associate in Arts

The Liberal Arts Associate in arts degree is awarded to students who successfully complete a curriculum that includes at least nine semester hours of English, including Composition and Human Communication; six or more semester hours of science; six or more semester hours of mathematics; twelve or more semester hours of social sciences; and six or more semester hours of a foreign language at the college intermediate level. Furthermore, all Liberal Arts students are strongly urged to select a course from the Humanities as one of their electives.

For more information, call the Humanities Department Chairperson, Chester Schnepf, at (203) 285-2205 (cschnepf@gwcc.commnet.edu) or the Social Science Department Chairperson, Daniel Courcey, at (203) 285-2152 (dcourcey@gwcc.commnet.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* 137	Intermediate Algebra	3
(or another degree credit math course recommended by the academic advisor)		
Elective	Natural Science	4
Elective	Computer Literacy	3
Elective	Social Science	3
		22

PROGRAM REQUIREMENTS

Course #	Title	Credits
HIS* 101	Western Civilization I	3
HIS* 102	Western Civilization II	3
Elective	Laboratory Science	4
Elective	Mathematics	3
Elective +	Foreign Language 101 and 102	6
Elective	Social Science	3
		22
Elective ++		3
Elective	Liberal Arts	3
		15
	Total Credit Hours	62

+ Other electives may be substituted for these requirements if proficiency at the elementary level has been demonstrated

++ This elective must NOT be classified as a Liberal Arts elective

COMMUNICATIONS FOCUS

Associate in Arts

The Communications Focus emphasizes an integrated approach to communication studies within Liberal Arts and a broad understanding of language, media, and the arts suitable for any field where communication is essential. Students planning to transfer to a four-year college should consult with the prospective institution.

COMMUNICATIONS FOCUS ELECTIVES

(Recommended for the Liberal Arts Electives and the unrestricted elective)

Select Three Courses: (Aural/Visual Appreciation)

ART* 101	Art History I	3
ART* 102	Art History II	3
ENG* 214	Drama	3
ENG* 272	History of Film	3
ENG* 271	Film and Literature	3
MUS* 101	Music History and Appreciation I	3

Select One Course: (Literature)

ENG* 210	Fiction	3
ENG* 211	Short Story	3
ENG* 214	Drama	3
ENG* 221	American Literature I	3
ENG* 222	American Literature II	3
ENG* 231	British Literature I	3
ENG* 232	British Literature II	3
ENG* 240	Studies in World Literature	3
ENG* 251	African-American Literature	3
ENG* 262	Women in Literature	3

Select One Course: (Writing)

BBG* 210	Business Communication	3
COM* 121	Journalism I	3
ENG* 202	Technical Writing	3
ENG* 281	Creative Writing	3

Select One Course: (Speech)

COM* 106	Introduction to Broadcasting	3
COM* 107	Mass Communication and Advertising	3
COM* 172	Interpersonal Communication	3
COM* 174	Advanced Public Speaking	3
COM* 208	Mass Media and Society	3

FINE ARTS FOCUS

Associate in Arts

The Fine Arts Focus allows students to develop studio skills, assemble a portfolio, and validate personal creative fulfillment. Students planning to transfer to a four-year college should consult with the prospective institution. Prior to registration, it is strongly recommended that students consult with Nicholas Halko in the Art Department at (203) 285-2241 or e-mail him at nhalko@gwcc.commnet.edu.

Visit the Art website at www.gwcc.commnet.edu/artdept/artdept.html

FINE ARTS FOCUS ELECTIVES

(Recommended for the Liberal Arts Electives and the unrestricted elective)

(Select Six Courses)

ART* 101, 102, 103	Art History I, II, III	3 ea.
ART* 141, 142	Photography I, II	3 ea.
ART* 167	Printmaking I	3
ART* 107	Introduction to Studio Art	3
ART* 111, 112, 113	Drawing I, II, III	3 ea.
ART* 131, 132	Sculpture I, II	3 ea.
ART* 122	Three Dimensional Design	3
ART* 121	Two Dimensional Design	3
ART* 109	Color Theory	3
ART* 151, 152, 251	Painting I, II, III	3 ea.
GRA* 151, 217	Graphic Design I, II	3 ea.
GRA* 231	Digital Imaging	3
ART* 299	Independent Study in Art	3
MUS* 150, 151, 250, 251	Piano I, II, III, IV	3 ea.

NUTRITION FOCUS

Associate in Arts

The Nutrition Focus comprises courses that may be transferred to the University of New Haven's bachelor of science in dietetics. Students should consult with UNH's program coordinator regarding the choice of general education and program requirements and electives. For more information, call the Program Coordinator, Marcia Doran, at (203) 285-2389 (mdoran@gwcc.commnet.edu).

LIBERAL ARTS PROGRAM OUTCOMES

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

Demonstrate competence in written and oral communication

Think critically and logically

Recognize and appreciate the aesthetic and ethical dimensions of humankind

Demonstrate the capability for continued learning

Please take the following courses to meet the respective electives:

Natural Science Elective	BIO* 115	Human Biology	4
Laboratory Science Elective	CHE* 111	Concepts of Chemistry	4
Social Science Elective	ECN* 101	Macroeconomics	3
Social Science Elective	NTR* 201	Community Nutrition Education	3

Liberal Arts Electives and the unrestricted Elective: (select six courses)

NTR* 103	Seminar in Dietetics I	3
NTR* 120	Foods	3
NTR* 102	Nutrition I: Principles of Nutrition	3
NTR* 104	Nutrition II: Diet Therapy I	3
NTR* 202	Nutrition III: Diet Therapy II	3
NTR* 204	Nutrition IV: Applied Nutrition	3
NTR* 203	Seminar in Dietetics II	3

Courses indicated as electives are nonspecific electives. For baccalaureate transfer students, suggested courses are indicated.

NURSING

NURSING

Associate in Science

The Gateway Community College Nursing Program is the first evening nursing program in the Connecticut Community College System. The program is a 68-credit Associate Degree Nursing Program that prepares the student for employment as a Registered Nurse. Once accepted into the program it takes two years to complete, including a five week summer session. The Associate Degree Nursing Program balances general studies content with nursing education. The program offers a wide variety of clinical nursing experiences to prepare graduates to deliver direct care to patients. It also serves as a bridge to baccalaureate degree programs. After completion of the nursing program, graduates are eligible to take the national exam for licensure* to become registered nurses.

+ Please refer to Connecticut State Statute 19A-14 for information regarding restrictions for licensure (located in the Nursing Program Policy Handbook).

NURSING PROGRAM OUTCOMES

Upon completion of the nursing program, the graduate will:

1. Incorporate principles from nursing, social, behavioral and biological sciences and humanities to assist individuals to adapt to and meet their common health needs.
2. Incorporate the nursing process using critical thinking skills as a basis for safe and effective nursing practice.
3. Employ effective interpersonal, communication and teaching skills when interacting with individuals, families and members of the health team.
4. Integrate the concepts of health promotion, maintenance and restoration of health to assist individuals and families across the life span to adapt to stressors.
5. Integrate accountability and responsibility and practice within the legal and ethical standards of the nursing profession.
6. Manage the care of groups of individuals and families safely, effectively with clinical and technological competence in a variety of settings as an entry level nurse.

The nursing program accepts a defined number of students once a year for the Fall semester.

ELIGIBILITY REQUIREMENTS

In order to apply to the nursing program the following criteria must be completed by the application deadline date of February 1, 2006. Applicants who have not successfully completed the prerequisites will not be considered for the Fall 2006 nursing program. Meeting the prerequisite requirements does not guarantee admission into the nursing program.

Prerequisites:

1. Chemistry with a lab – high school chemistry or CHE*111 or equivalent (within the past seven (7) years with a grade of “C-” or better.
2. Intermediate Algebra – MAT*137 or MAT*115 or higher or equivalent or recommendation from the placement test with a grade of “C-” or better.
3. Eligibility for Composition – ENG*101.
4. GPA of 2.7 in high school or college (college GPA based on twelve (12) or more credits). GPA is calculated on the past five years of academic work plus previous required courses.

APPLICATION PROCESS

THE FOLLOWING MUST BE COMPLETED BY THE APPLICATION DEADLINE DATE OF FEBRUARY 1, 2006.

1. **Submit a Gateway Community College application.**
 - A Gateway Community College application, including the non-refundable \$20.00 application fee, a copy of your high school diploma or high school transcripts must be submitted to the Admissions Office on the Long Wharf Campus prior to applying to the Nursing Program. ***If you are a current GCC student, you do not have to complete a GCC application.***
 - Placement testing is required of students who have not completed college level English and/or mathematics with a grade of “C” or better.
 - As appropriate, students whose primary language is not English are required to take the ESL Accuplacer Placement Test. All developmental and/or ESL course work must be completed prior to the application deadline date. To apply to the Nursing Program, a student must be eligible to register for ENG*101 for Fall semester freshmen year.

- Former GCC students who have withdrawn from the college or have been absent from the college for at least two years (excluding summer and winter intersessions) and wish to return must submit a Readmit Application form to the Records 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 to the Admissions Office on the Long Wharf Campus.
 - Students who have attended another Connecticut Community College are still required to submit a GCC admission application, a copy of their high school diploma or high school transcripts and all previous college transcripts. However, students are not required to pay the \$20 non-refundable fee.
- 2. Submit a Gateway Community College Nursing Program Application**
- The application period for the nursing program for the Fall 2006 class is October 31, 2005 through February 1, 2006.
 - The student must complete the Fall 2006 nursing application. Your Fall 2005 nursing application will not be accepted for Fall 2006. You must complete a new application for the year to which you are applying to the nursing program.
 - The nursing program application will be available on the Gateway Community College website (www.gwcc.commnet.edu), in the Gateway Community College Admissions Office on the Long Wharf Campus or in the Nursing Division Office on the North Haven Campus in Room 234.
- 3. Submit High School and Official College Transcripts**
- All transcripts from previous colleges must be submitted to the Admissions Office by the application deadline date. It is the responsibility of the student to ensure that all records, including high school and official college transcripts, are received by the Admissions Office by the application deadline date. **All records received after the application deadline date will not be reviewed.**
 - College transcripts must include all grades including grades for the Fall 2005 semester.
- 4. Application Review**
Acceptance is based upon academic achievement.
 Nursing applications are reviewed and evaluated based on the following criteria.*
- Overall GPA within the past five years plus previous general education courses required for the nursing program.
 - Chemistry with a lab – high school chemistry or CHE*111 or equivalent (within the past seven (7) years).
 - Highest level of English completed.
 - Intermediate Algebra – MAT*137 or MAT*115 or higher level or equivalent or recommendation from the placement test.
 - The number of college courses completed within the past five years plus previous courses required for the nursing program.

*Current percentage weight for criteria is subject to change.

TRANSFER CREDITS – NON-NURSING COURSES

- All official transcript evaluations must be completed by the Gateway Community College Admissions Office.
- In accordance with transfer of credit guidelines set forth by the Board of Trustees, courses which meet nursing program requirements* are accepted at Gateway Community College.
- Students must have official transcripts from other colleges sent to the Admissions Office at Gateway Community College by the application deadline date.
- Once a student earns credit at GCC he/she may not transfer credit for the same course from another college.
- Anatomy and Physiology I and II and Microbiology courses within the past five (5) years that meet the college requirements will be accepted for transfer.
- At least 25 percent of course work must be completed at GCC.

TRANSFER CREDITS – NURSING COURSES

A student requesting transfer of nursing courses must submit a written request for transfer to the Director of the Nursing program. A copy of all Nursing syllabi from the nursing program the student is transferring from must accompany the request. An official copy of transcripts from all schools attended must also be sent to the Director of Nursing. The request for transfer will be reviewed by the Director and presented to the entire faculty for discussion. A decision will be made at a Nursing Division meeting. Decisions about transfers are based on the following criteria:

1. A minimum GPA of 3.00 based on the student transcripts.
2. Timeframe since last attended nursing school must not exceed 12 months.
3. Space availability in the appropriate clinical section.
4. The availability of clinical resources and faculty.
5. Transferability of the previous nursing course(s) into the GCC curriculum plan.

If accepted as a transfer student, all necessary applications and records must be submitted as required in the college wide transfer policy. The student will be notified in writing of the decision and the level of placement in the program.

LPN TO RN: THE CONNECTICUT ARTICULATION MODEL FOR NURSE EDUCATIONAL MOBILITY

To qualify for advanced placement credit outlined by the Connecticut Articulation Model, the LPN must:

- Hold a current Connecticut Practical Nurse license.
- Fulfill the admission requirements for and be accepted into the GCC Nursing Program.
- Attend the orientation sessions and any scheduled workshops for the nursing program.
- Successfully complete NSG*112 with a passing grade of "C". Credits will then be given for NSG*101 and NSG*120.
- Complete all general education courses required for first year nursing students before beginning NSG*112 and NSG*201.

NURSING CLASSES AND CLINICAL LOCATIONS

- Nursing classes are held on the North Haven Campus at Gateway Community College.
- Nursing clinicals are at variety of health care settings such as, but not limited to, Yale – New Haven Hospital, the Hospital of Saint Raphael, Masonicare, The Hospital for Special Care, Connecticut Valley Hospital, and Midstate Medical Center
- Students must provide their own transportation to and from class and clinical.
- The cost of uniforms, books, supplies and parking at clinical affiliate sites are in addition to the College tuition and fees.

ADDITIONAL INFORMATION

- The accepted student is required to submit a completed Report of Health Evaluation which describes the student's health and immunization status. The medical examination by a Licensed Independent Practitioner (MD, APRN, PA) must be completed prior to the first day of class and indicate that the student is cleared to participate in clinical nursing courses. In the event that the student's medical evaluation indicates restrictions/limitations to the delivery of patient care, the student must contact the Student Disability Service Office. Reasonable accommodations will be made in compliance with ADA guidelines.
- The student must meet eligibility requirements to take the National Council Licensure Examination. Please reference the Connecticut statute Sec. 19a-14.6 for eligibility requirements.
- Attendance at a Nursing Information Session is strongly suggested for those students interested in the nursing program. Students should also schedule a RN shadow day at a local hospital.
- Students accepted into the nursing program will be required to attend a RN shadow day prior to the Fall semester.

PROGRAM REQUIREMENTS

Freshman Year

Fall Semester

Course #	Title	Credits
BIO* 211	Anatomy & Physiology I	4
ENG* 101	Composition	3
NSG* 101	Fundamentals of Nursing	6
PSY* 111	General Psychology I	3
Total Semester Credits		16

Spring Semester

Course #	Title	Credits
BIO* 212	Anatomy & Physiology II	4
ENG* 102	Literature and Composition	3
NSG* 112	Family Health Nursing	8
PSY* 122	Child Growth and Development	3
Total Semester Credits		18

Summer Session (Five-week Session)

Course #	Title	Credits
NSG* 120	Nursing Care of Adults & Children I	3

Sophomore Year

Fall Semester

Course #	Title	Credits
BIO* 235	Microbiology	4
CSC* 101	Introduction to Computers	3
NSG* 201	Nursing Care of Adults & Children II	9
Total Semester Credits		16

Spring Semester

Course #	Title	Credits
COM* 171	Fundamentals of Human Communication	3
ENG* 298	Humanities: The Creative Voice	3
NSG* 202	Nursing Care of Adults & Children III	9
Total Semester Credits		15
Total Credits		68

RETAIL MANAGEMENT/FASHION MERCHANDISING

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, at (203) 285-2198 (rbednarz@gwcc.commnet.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
BOT* 216	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 degree credit mathematics course recommended by the academic advisor

++ Or another computer literacy course recommended by the academic advisor

PROGRAM REQUIREMENTS

Course #	Title	Credits
ACC* 113	Principles of Financial Accounting	3
BBG* 210	Fundamentals of Business Communication	3
BES* 218	Entrepreneurship	3
BMK* 103	Principles of Retailing	3
BMK* 201	Principles of Marketing	3
BMG* 202	Principles of Management	3
BMK* 215	Principles of eBusiness	3
BMK* 230	Retail Advertising/Sales 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**First Semester**

Course #	Title	Credits
BMK* 103	Principles of Retailing	3
BMK* 255	Fashion Analysis	3
BMK* 230	Advertising and Promotion	3
BMK* 242	Retail Buying	<u>3</u>
	Total Semester Hours	12

Second Semester

Course #	Title	Credits
BMK* 257	Components of Merchandising	3
BES* 218	Entrepreneurship	3
BMK* 215	Principles of eBusiness	3
BMK* 295	Field Experience I	<u>3</u>
	Total Semester Hours	12
	Total Credit Hours	24

SCIENCE

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 either Heidi Rydene at 285-2184 (hrydene@gwcc.commnet.edu) or Mark Bruno at 285-2353 (mbruno@gwcc.commnet.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
BIO* 121	General Biology 1	4
COM* 171	Fundamentals of Human Communications	3
ENG* 101	Composition	3
MAT* 175	College Algebra and Trigonometry	3
Elective	Fine Arts	3
Elective	Humanities	3
Elective	Social Science	3
Elective	Computer	3
		25

PROGRAM REQUIREMENTS

Course #	Title	Credits
BIO* 122	General Biology II	4
CHE* 121	General Chemistry I	4
CHE* 122	General Chemistry II	4
MAT* 167	Statistics with Technology	3
MAT* 187	Precalculus Mathematics	3
PHY* 121	General Physics I	4
PHY* 122	General Physics II	4
		26
Elective	Science or Math Directed +	3-4
Elective	Science or Math Directed +	3-4
Elective	Science or Math Directed +	3
		10-12
	Total Credits	61-63

+ Directed Electives

<i>BIO* 113 Physiology of Aging</i>	3	<i>MAT* 256 Calculus II</i>	4
<i>BIO* 298 Special Topics in Biology</i>	3	<i>MAT* 268 Calculus III: Multivariable</i>	4
<i>BIO* 211 Anatomy & Physiology I</i>	4	<i>MAT* 285 Differential Equations</i>	3
<i>BIO* 212 Anatomy & Physiology II</i>	4	<i>MAT* 272 Linear Algebra</i>	3
<i>BIO* 235 Microbiology</i>	4	<i>PHY* 221 Calculus-Based Physics I</i>	4
<i>CHE* 211 Organic Chemistry I</i>	4	<i>PHY* 222 Calculus-Based Physics II</i>	4
<i>CHE* 212 Organic Chemistry II</i>	4	<i>EAS* 102 Earth Science</i>	3
<i>MAT* 254 Calculus I</i>	4	<i>RST* 217 Clinical Pathology</i>	3

TECHNOLOGY

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.

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 the Roy Francis, at (203) 285-2368 (rfrancis@gwcc.commnet.edu).

GENERAL EDUCATION REQUIREMENTS

Course #	Title	Credits
ENG* 101	Composition	3
COM* 171	Fundamentals of Human Communication	3
POL* 111	American Government	3
MAT* 167	Statistics with Technology	3
BIO* 105	Introduction to Biology	4
or		
BIO* 121	General Biology I	4
CET 116	Computer Applications for Technology	3
Elective	Fine Arts	3
Elective	Humanities	3
Total General Education Credits		15

PROGRAM REQUIREMENTS

Course #	Title	Credits
MAT* 115	Mathematics for Science and Technology	3
or		
MAT* 175	College Algebra and Trigonometry	3
PHY* 121	General Physics	4
CHE* 111	Concepts of Chemistry	4
or		
CHE* 121	General Chemistry I	4
TOX* 200	Toxicology	3
Electives (4)	Directed	12-16
Total Program Requirement Credits		26-30

Directed Electives:

TOX* 214	Qualitative and Quantitative Field and Lab. I	4
TOX* 222	Qualitative and Quantitative Field and Lab. II	4
TOX* 110	Environmental Science and Toxicology Orientation	1
TOX* 160	Internship	4
Total Option Credits		13
Total Credits		64-68

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
MAT* 115	Mathematics for Science and Technology	3
CHE* 111	Concepts of Chemistry	4
TOX* 200	Toxicology	3
TOX* 214	Qualitative and Quantitative Field and Lab Anal. I	4
TOX* 222	Qualitative and Quantitative Field and Lab Anal. II	4
TOX* 110	Environmental Science and Toxicology Orientation	1
Electives	Directed (see p. 145)	6
Total Credit Hours		29

WASTEWATER 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 Roy Francis, at (203) 285-2368 (rfrancis@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

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 Hours		16

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 Hours		13
Total Credit Hours		29

ADVANCED WASTEWATER 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, call Roy Francis, at (203) 285-2368 (rfrancis@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Fall Semester

Course #	Title	Credits
ETC 104	Fundamentals of Electricity	4
MAT* 187	Precalculus Mathematics	3
PSY* 111	General Psychology I	3
WWT* 210	Advanced Wastewater I	3
ENV* 230	Environmental Engineering	3
Total Semester Hours		16

Spring Semester

Course #	Title	Credits
WWT* 212	Advanced Wastewater II	3
WWT* 216	Environmental Law	3
Electives	Directed	6
Total Semester Hours		12
Total Credit Hours		28

WATER MANAGEMENT

Certificate

Water management 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, call Roy Francis, at (203) 285-2368 (rfrancis@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Fall Semester

Course #	Title	Credits
WMT* 105	Water Utility Management	3
WMT* 101	Water Treatment and Distribution	6
Total Semester Hours		9

Spring Semester

Course #	Title	Credits
ENV* 110	Environmental Regulations	3
WMT* 102	Special Topics in Water Treatment	3
or		
WMT* 103	Special Topics in Water Distribution	3
Total Semester Hours		6
Total Credit Hours		15

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, contact the Division Director, Roy Francis, at (203) 285-2368 or e-mail him at rfrancis@wcc.commnet.edu.

PROGRAM REQUIREMENTS

Freshman Year

Fall Semester

Course #	Title	Credits
CET 116	Computer Applications for Technology	3
ENG* 101	Composition	3
FTA* 112	Introduction to Fire Technology	3
MAT* 187	Precalculus Mathematics	3
PHY* 121	General Physics I	4
Total Semester Hours		16

Spring Semester

Course #	Title	Credits
ENG* 202	Technical Writing	3
FTA* 116	Building Construction	3
FTA* 118	Fire Prevention and Inspection	3
MAT* 175	College Algebra and Trigonometry	3
PHY*122	General Physics II	4
Total Semester 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 Hydraulics	3
FTA* 213	Codes and Standards	3
Elective	Humanities	3
Total Semester Hours		16

Spring Semester

Course #	Title	Credits
FTA* 216	Municipal Fire Administration	3
FTA* 218	Extinguishing Systems	3
FTA* 219	Fire Investigation	3
Elective	Social Science	3
Elective	Fine Arts	3
Total Semester Hours		15
Total Credit Hours		63

ELECTRONIC PUBLISHING

Certificate

The Electronic Publishing certificate program is designed for people who are or who plan to be involved in advertising, computer graphics, web design, publishing, or printing. It provides training in the area of integrated electronic prepress. Students will learn to prepare type, graphics, and color (flat and process) for printing. Digital color imaging on the desktop is included. Courses in the program develop students' technical competence in all areas of electronic prepress. Proficiency in typography, typesetting, layout, design, and color provides the basic skills for entry-level positions in prepress departments in printing firms or advertising agencies. Career opportunities for students completing this certificate include design and preparation of printed pieces, sign making, sales and training, color prepress artist, and desktop publishing. For more information, call the Division Director at (203) 285-2368. (rfrancis@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Fall Semester

Course #	Title	Credits
DGA* 130	Typography	2
DGA* 231	Digital Publishing (QuarkXPress)	3
Total Semester Hours		5

Spring Semester

Course #	Title	Credits
DGA* 223	Digital Illustration	3
DGA* 120	Digital Imaging I (Adobe Photoshop)	3
Total Semester Hours		6
Total Credit Hours		12

WEB DESIGN

Certificate

The Web Design certificate is offered for people who are or who plan to be involved in web design. It is also designed for people involved in advertising, computer graphics, publishing, or printing who may be interested in designing web pages. The program provides training in web design and computer graphics.

WEB DESIGN CERTIFICATE PROGRAM OUTCOMES

Upon completion of this certificate program, students should be able to:

- Understand color and typographic relationships
- Use design elements and principles to design and structure information for clarity and impact
- Write a client proposal for a website
- Describe and explain the different color models and how they relate to the web
- Use color, text, and graphics creatively in order to produce an attractive website
- Use web programs, such as Macromedia Dreamweaver and Adobe GoLive, to create tables for the web
- Prepare HTML code for a web page
- Complete a project integrating graphics created in Photoshop and Illustrator and layout created in QuarkXPress
- Optimize graphics using Image Ready
- Create hyperlinks
- Create simple animations

After completing this certificate, students will have a solid background in web design. They will be familiar with basic design elements and principles and will be able to incorporate these into an effective layout. Using Adobe Photoshop and Illustrator to create and manipulate graphics and Adobe Image Ready to optimize graphics, students will then learn to use web design software, such as Macromedia Dreamweaver, to create an effective website. Appropriate courses are listed in the catalog under Electronic Publishing. For more information, call the Division Director at (203) 285-2368 (rfrancis@gwcc.commnet.edu).

PROGRAM REQUIREMENTS

Fall Semester

Course #	Title	Credits
DGA* 124	Digital Imaging II	3
CST* 152	Introduction to Web Page and Design	3
Total Semester Hours		6

Spring Semester

Course #	Title	Credits
DGA* 241	Internet Web Design I	3
DGA* 243	Web Design II	4
Total Semester Hours		7
Total Credit Hours		13

COURSE DESCRIPTION

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 Peachtree. 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

ALH 101 Introduction to Allied Health

3 S.H.

Surveys Allied Health professions for those students considering a career in this field. The course includes an overview of the duties and responsibilities associated with each profession, enabling students to make informed career decisions. The lecture/discussion format involves the participation of representatives from various Allied Health disciplines. Students are responsible for arranging two clinical observations during the semester.

ALH 102 Methods of Learning in a Clinical Curriculum

3 S.H.

Designed to assist traditional and non-traditional first year college students 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 programs in allied health/nursing. Participation in field work and classroom visits is 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**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-ased medium. Digital video art's relationship to fine arts as well as to other media is covered.

ART* 198 Topics in Art**1-6 S.H.****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.

AUTOMOTIVE**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* 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.

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* 120 Toyota Engine Repair (AUT 120)**3 S.H.**

Focuses on basic engine theory, nomenclature, and the skills necessary to service and repair current model year Toyota 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* 122 Toyota Specifications (AUT 122)**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 who have no previous experience, as well as for more advanced students desiring further knowledge. Four hours of laboratory.

AUT* 124 Toyota Electrical Systems (AUT 124)**3.5 S.H.**

Presents basic electrical theory, nomenclature, and the skills necessary to service and repair Toyota electrical components. Upon completion, students will have studied the most up-to-date Toyota electronic systems and should be able to identify and explain 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* 126 Toyota Suspension and Steering (AUT 126)**3 S.H.**

Enables the student to study and better understand the diagnosis and repair of Toyota steering and suspension systems, including wheel alignment. Includes a thorough presentation of wheel and tire problems and repair. One hour of lecture / four hours of laboratory.

AUT* 128 Toyota Brakes (AUT 128)**3.5 S.H.**

Covers the theory, diagnosis, and repair procedures for Toyota hydraulic systems, drum and disc brakes, and power assist units. Two hours of lecture / three hours of laboratory.

AUT 140 AC Delco Engines**3 S.H.**

Focuses on AC Delco basic engine theory, nomenclature, and the skills necessary to service and repair current model year engines. Upon completion, 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 144 AC Delco Electrical Systems**3.5 S.H.**

Presents basic AC Delco electrical theory, nomenclature, and the skills necessary to service and repair automotive electrical components. Upon completion, 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 146 AC Delco Suspension Systems**3 S.H.**

Enables the student to study and understand the diagnosis and repair of AC Delco steering and suspension systems, including wheel alignment. Includes a thorough knowledge of wheel and tire problems and repair. One hour of lecture / four hours of lab.

AUT 148 - AC Delco Brake Systems**3.5 S.H.**

Covers the AC Delco theory, diagnosis, and repair procedures for hydraulic systems, drum and disc brakes, and power assist units. Two hours of lecture / three hours of lab.

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* 170 Internship II (AUT 170)**4 S.H.**

Students participate in a ten-week practical training at a dealership or garage. Prerequisite: Completion of Semester I courses.

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* 221 Toyota Engine Performance (AUT 221)**3.5 S.H.**

Covers basic fuel theory, nomenclature, and the skills necessary to service and repair Toyota 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* 223 Toyota Manual Drive Train and Axles (AUT 223)**3.5 S.H.**

Presents the proper procedures for diagnosing and repairing Toyota 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* 225 Toyota Automatic Transmission and Transaxle (AUT 225)**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 experience through on-vehicle and off-vehicle diagnosis and repair. Two hours of lecture / three hours of laboratory. Prerequisite: AUT* 223.

AUT* 227 Toyota Heating and Air Conditioning (AUT 227)**3.5 S.H.**

Presents the proper procedures for diagnosing and repairing air conditioning systems, heating and engine cooling systems, operating systems, and related controls. Two hours of lecture / three hours of laboratory.

AUT 241 AC Delco Fuel Systems**3.5 S.H.**

Covers basic AC Delco 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 243 AC Delco Manual Transmissions/Transaxle**3.5 S.H.**

Presents the proper AC Delco procedures for diagnosing and repairing 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 245 AC Delco Automatic Transmission/Transaxles**3.5 S.H.**

Explains AC Delco concepts and procedures of diagnosis, repair, and general overhaul of automatic 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 hours of laboratory.

AUT 247 AC Delco Heating and Air-Conditioning**3.5 S.H.**

Presents the proper AC Delco procedures for diagnosing and repairing air-conditioning, heating, and engine cooling systems; operating systems; and related controls. Two hours of lecture / three hours of laboratory.

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 249 Computerized Inventory System (WISE) **3 S.H.**
Trains students in the AC Delco centralized inventory management system.

AUT* 260 Internship III (AUT 260) **2 S.H.**
Students participate in 5 weeks of additional practical training at a dealership or automotive repair facility.

AUT* 270 Internship IV (AUT 270) **2 S.H.**
Students participate in 5 weeks of advanced practical training at a dealership or automotive repair facility.

AUT* 280 Internship V (AUT 280) **6 S.H.**
Students participate in 16 weeks of advanced practical training at a dealership or garage to learn advanced automotive electrical/electronic and fuel injection experience.

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 species, principles of genetics, organic evolution, and ecology. Involves fieldwork and dissection. Not open to students who are taking or have taken BIO* 121 or BIO* 122. Three hours of lecture / three hours of laboratory.

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 basis 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. *Note: It is strongly recommended that students with little or no biology background take BIO* 110 (Principles of the Human Body) prior to this course.* 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. 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 or BIO* 121/122 or BIO* 211/212 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: BME* 114.

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 LASER Fiberscope, Tomography, and Expert Systems. 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 Department Chairperson.

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: Good academic standing.

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.

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* 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 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* 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.

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 I if student stays in same work site. Student may select 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 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 examples include simple tabulations, letters, memoranda, and short reports.

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.

BOT* 120 Speedwriting (BOT 110)**3 S.H.**

Develops the ability to use a symbolized/alphabetic shorthand system. Emphasizes theory as well as dictation and transcription skills.

BOT* 137 Word Processing Applications (Word) (BOT 215)**3 S.H.**

Introduces students to the concepts of word processing and hands-on experience with microcomputers and popular word processing software. Prerequisite: Instructor's permission.

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 microcomputer. 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. Prerequisites: BOT* 111. Corequisites: BIO* 110 or BIO 115.

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* 216 Spreadsheet Applications (Excel) (BOT 214)**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.

BOT* 217 Desktop Publishing (BOT 218)**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* 218 Database Applications (Access) (BOT 220)**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.

BOT* 219 Integrated Microsoft (BOT 204)**3 S.H.**

Students will work independently to solve production problems of increasing complexity using Microsoft Office (Word, Excel, Access, and PowerPoint). Furthermore, students will complete assignments to improve English grammar. Prerequisites: BOT* 112, BOT* 216, and BOT* 137.

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 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, preparing itineraries and reports, telephone etiquette, business ethics, and good grooming. Prerequisite: BOT* 137 or instructor's permission.

BOT* 252 Administrative Procedures II (BOT 206)**3 S.H.**

Familiarizes students with such modern office machines as electronic calculators, transcribing machines, fax machines, and microcomputers running word processing programs and Microsoft Outlook. Teaches filing skills on the computer. Prerequisites: BOT* 137 and BBG* 210 or instructor's permission.

BOT* 271 Legal Document Production (BOT 213)**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)**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 75 daytime hours during the semester, Monday through Friday. 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.

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. Pre- or Corequisite: MAT* 115.

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. Corequisite: MAT* 115 or higher.

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. Corequisite: MAT* 115 or higher.

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, 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.

COMMUNICATIONS

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* 043 and/or ENG* 063 or ESL* 169 and ESL* 161 with a grade of "C" or better.

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* 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* 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 110 Computer Aided Drafting I

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 210 Computer Aided Drafting II

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 110 or equivalent.

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.

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. Prerequisite: CET 116.

CET 145 Fundamentals of Voice and Data Cabling

4 S.H.

Introduces students into the various hardware aspects of establishing communication links between computers and 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 of 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. Prerequisite: 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: CET 120 and EET 252.

COMPUTERS (APPLICATIONS)

CSA* 295 Computer Science Applications Practicum

3 S.H.

Exposure 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* 202.

CSA* 296 CWE - Computer Applications

3 S.H.

Places senior CST 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* 202; 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.

CSC* 120 Windows / DOS / Microcomputers (CSC 260)

3 S.H.

The Windows Operating System for PCs is covered in depth. All aspects of file management are practiced with hands-on exercises. Security settings, as they relate to Internet use, are discussed. Also covered are changes to the Start Up Program, software installation, troubleshooting, and system default settings. The meaning of different file types among files, images, and software is explained. Command Line tasks are also addressed. Prerequisite: 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* 201 COBOL I (CSC 120)

3 S.H.

Introduces the COBOL programming language, its syntax, logic, and control structures. Elements of the language are taught through writing, debugging, and executing application programs related to business. Emphasizes structured programming, control of input, report generation, editing, calculations, control breaks, and decision-making. Uses accounting and business problems in laboratory assignments. Also uses a hands-on approach through which students have interactive control of entering COBOL programs, debugging, and generating end results. Three hours of lecture / two hours of laboratory. Prerequisite: CSC 110.

CSC* 202 COBOL II (CSC 214)

3 S.H.

Introduces advanced COBOL concepts, including table processing; data validation; sequential, indexed, and relative file processing; sub-program linkage; interactive processing; and copy libraries. Compares ANSI 74 and 85 COBOL processing and syntax. The laboratory portion involves table processing; data validation; sequential, indexed, and relative file processing and maintenance; sub-program linkage; interactive programming; and copy libraries. A hands-on approach is used through which students enter source code and test data, execute, test, and debug end results. Three hours of lecture / two hours of laboratory. Prerequisite: CSC* 201.

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- CSC* 205 Visual Basic I (CSC 124)** **3 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 and CSC* 110.
- 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* 213 Object Oriented Programming Using C++ (CSC 160)** **3 S.H.**
Introduces computer programming using C++. Each student will design, test, debug, and document several programs during the semester. Prerequisite: CSC* 110.
- 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. Prerequisites: CSC 101 or 110 and CSC 104.
- CSC* 241 Computer Science II (CSC 127)** **4 S.H.**
Continues digital computer design and studies the fundamental aspects of microcomputers, hardware and software. The laboratory portion implements the concepts developed in the lecture. Machine and Assembly language problems will be written and devices will be interfaced with a microprocessor. Prerequisite: CSC* 205.
- CSC* 243 Numeric Methods (CSC 230)** **4 S.H.**
Introduces elementary numerical methods found useful in the field of mathematics and computing. The laboratory portion covers the concepts and skills presented in the Numeric Methods course through practice and reinforcement with hands-on experience. Three hours of lecture/two hours of laboratory. Prerequisite: MAT* 254.
- CSC* 244 Modeling and Simulation (CSC 220)** **4 S.H.**
Introduces the topic of simulation. Discusses several languages and performs with a general purpose language. Introduces the topics of discrete, continuous and combined simulations. Uses the Slam language as a special simulation language. Shows examples of problems. Compares manual simulation, simulation with general purpose language and special simulation languages. The laboratory portion practices the principles learned in the lecture class. Involves class problems of hand d simulation, general-purpose language simulation and the use of Slam II language. Three hours of lecture/two hours of laboratory. Prerequisite(s): MAT* 167 and a programming language.
- 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 and CSC* 201.
- CSC* 260 Introduction to RPG (CSC 122)** **4 S.H.**
Presents the RPG programming language utilized by many small- and medium-size computer users. Emphasizes the rules of language and the programming solutions of basic accounting functions. File construction and maintenance are featured. The laboratory portion covers the syntax of the RPG language and applies it to laboratory assignments that address accounting and business applications. All assignments are completed in an interactive environment in which students have control of entering RPG source code, compiling, debugging, and generating results. Three hours of lecture/two hours of laboratory. Prerequisite: CSC* 110 or related work experience.
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CSC* 271 Introduction to Fortran (CSC 218) (Course has not been offered in the past two years) **4 S.H.**

Introduces the Fortran language, covering topics from the basic structure of the language through function and call type subroutines and disk file handling. Examines the applicability of Fortran to information processing as well as its use in numerical evaluations. The laboratory portion includes exercises in Fortran programming, covering the basic structure of the language. Three hours of lecture / two hours of laboratory.

CSC* 281 Introduction to PASCAL (CSC 216) **4 S.H.**

Covers the fundamental topics of the PASCAL programming language. Emphasizes program development, structure, and testing. The laboratory portion applies and reinforces lecture material through hands-on exposure. Three hours of lecture / two hours of laboratory.

CSC* 283 Introduction to Assembler (CSC 222) **4 S.H.**

Presents the assembler language and its relationship to higher level programming languages. Emphasizes internal data representation formats, data manipulation, decimal arithmetic operations, logical and algebraic comparisons, and simple loop patterns. Prerequisite: CSC* 110 or programming experience in a high-level language. Three hours of lecture / two hours of laboratory.

COMPUTER SCIENCE (TECHNOLOGY)

CST* 120 Introduction to Operating Systems (CSC 210) **3 S.H.**

Analyzes the use of operating systems as computer resources managers. Emphasizes communication with operating systems through an operating system command language. Covers such utility programs as the sort program. The laboratory portion utilizes a job control language to communicate with the operating system in performing tasks. Prerequisite: One of the following: CSC* 210, CSC* 201, CSC* 205, or CSC* 213.

CST* 133 Introduction to Networking (CSC 170) **3 S.H.**

Presents the necessary knowledge and skills to complete the basic network management tasks of a system administrator in a Novell NetWare environment. Concepts covered include managing users and groups, file server management, automating the workstation connection, creating and managing the printing environment, implementing login and file system security, and creating login scripts and menus. Prerequisite: CSC* 101 or departmental permission.

CST* 140 Introduction to Computer Hardware (CSC 190) **3 S.H.**

Provides students with the technical knowledge and skills to support, troubleshoot and service Novell NetWare networks. Designed with frequent lab exercises to provide students with ample "hands-on" experience with both hardware and software components of a network. Each student will design, install and service several networks during this course. Prerequisites: CST* 133 and CST* 165.

CST* 152 Introduction to Web Page and Design (CSC 140) **3 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: CSC* 101.

CST* 162 Windows 2000 Professional (CSC 234) **3 S.H.**

Introduces the Microsoft Windows 2000 network and the essentials of this operating system. Topics covered include installation, configuration, administration, and support. The course will identify tools used to perform various administrative tasks such as Microsoft Management console, Task Scheduler, Control Panel and the registry, as well as the protocols and services that ship with Windows 2000, including Domain Name System (DNS). Three hours of lecture/ two hours of laboratory. Prerequisite: CSC*101.

CST* 163 Windows 2000 Server (CSC 235) **3 S.H.**

Introduces Microsoft Windows 2000 Server. Topics covered include installation, file systems, and disk management functions, administration of the operating system and Active Directory Services, network protocols, routing and remote access, monitoring and optimization. Three hours of lecture/ two hours of laboratory. Prerequisite: CST* 162.

CST* 165 Installation and Configuration (CSC 182)**3 S.H.**

Provides students with the knowledge and skills necessary for installation of Novell NetWare 3.1x file servers, configuration of both DOS and Windows workstations, configuration of file system and login security, and managing the NetWare 3.1x server. Prerequisite: CST* 133.

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 LAN's, WAN's, 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 Advanced Networking (CSC 180)**3 S.H.**

Introduces the advanced features of Novell NetWare necessary for server performance optimization and maintenance, advanced print services management, and enhanced workstations support. Prerequisite: CST* 133.

CST* 234 Network+ (CSC 233)**3 S.H.**

Prepares students to install and service networked PCs with confidence. Students will also possess the skills to turn stand-alone PCs into client workstations configured to work with TCP/IP and IPX. At the end of this course, students will be prepared to take the industry-recognized Network+ exam to become certified as a Network+ technician. Prerequisite: CSC* 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.

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 health care workers. Emphasis is placed on professional standards, health promotion, disease prevention and ethical issues that are encountered by dental hygienists.

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. 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 than 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.**

Presents the basic physical principles of Doppler and their use in diagnostic medical sonography. Topics include hemodynamics, Doppler effect, Doppler instrument components and their functions and limitations, spectral analysis, normal wave patterns, and pathological findings. Also includes liver vasculature, native and transplant kidneys, and mesenteric vessels. Introduces upper and lower extremities and cerebrovascular imaging. Also covered are principles of acoustical physics, how sound is produced and manipulated, how sound reacts in various mediums, and the acoustical impedance properties produced in various mediums and transducer characteristics dependent upon wave frequencies. 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* 204 Obstetrical/Gynecological Sonography (DMS 222)**3 S.H.**

Explores human development 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. Presents a detailed approach to the anatomy and physiology of the female reproductive system, including the physiology of human reproduction. Discusses proper scanning techniques, including the sonographic appearance of the female pelvis at various stages in a woman's life. Analyzes the protocol, proper instrument settings, and pathological conditions relating to gynecology, including clinical and sonographic findings. Prerequisites: DMS* 201, DMS* 203, DMS* 211 and RST* 217. Corequisites: DMS* 205, DMS* 206, and DMS* 212.

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* 204, DMS* 206, 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* 204, DMS* 205, 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 experience 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.**

Introduces addiction counseling by exploring the career field and the requirements for success as a counselor. Students will explore key topic areas such as: models and theories of addiction and recovery; history of legislation and regulation; self-help and evidenced-based approaches to recovery; ethics and confidentiality. Public health issues related to substances will be investigated, including: trends in substance use; co-occurring disorders, advertising of tobacco and alcohol, costs to society, HIV and other contagions, continuum of care from prevention to aftercare, and more. Pre- or corequisite ENG* 063 and ENG* 073 or higher, or permission of coordinator.

DAR* 111 Addiction Counseling I (DAR 111)**3 S.H.**

Students will learn, practice, and develop counseling such skills as attending, reflecting, active listening, and mirroring. 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* 063 and ENG* 073 or higher, or permission of coordinator.

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. Pre- or corequisite ENG* 063 and ENG* 073 or higher, or permission of coordinator.

DAR* 117 Substance Abuse Prevention (DAR 117)**3 S.H.**

Introduces the prevention models, philosophies, and strategies used in developing and implementing a community-based prevention program.

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* 063 and ENG* 073 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* 230 Management of Human Service Facilities (DAR 230)**6 S.H.**

Provides students with the experience of spending fifteen 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 observe the treatment process from intake to discharge. Students observe, practice, and develop competency in the twelve core functions of addiction counseling. As students develop increased competence, they will progress from observers to co-counselors and then to counselors. To enhance the field experience, students continue their academic study during a weekly seminar. Students are expected to reflect on their fieldwork, participate in clinical and peer supervision, and continue their research into counseling theories. Prerequisites: DAR* 101, DAR* 111, DAR* 112, DAR* 158, ENG* 101 with a grade of "C" or better, and permission of the DARC program coordinator. *(This is a selective admission component of the DARC program.)*

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 12 core functions 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 and permission of the program coordinator. Prerequisite DAR 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 a selective admission component of the DARC program.)*

DAR* 252 Counseling Internship II (DAR 252)**6 S.H.**

Continues of DAR* 251, where 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 twelve core functions. 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.

EARLY CHILDHOOD EDUCATION**ECE* 101 Introduction to Early Childhood Education (EDU 101)****3 S.H.**

Begins a three-part investigation of early childhood development. Part I provides the historical background of the preschool movement, including the ideas of Comenius, Rousseau, Pestalozzi, Montessori, and Froebel. Also addresses such current approaches as Bank Street, Weikart, Alerta, and Dewey's progressive (open-classroom) approaches. Part II deals with the various preschools of today, i.e., Head Start, Nursery, and Day Care, and their functions. Emphasis is placed on essential concepts, skills, and insights as they relate to the stages of child education. Part III scrutinizes and evaluates the methods, contents, materials, and equipment currently used. Knowledge gained in these three parts will be applied to devise a sound yet flexible curriculum that can be used at all levels of ECE.

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* 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* 211 Field Seminar I (EDU 211)**3 S.H.**

Provides current and prospective teachers of young children with an in-depth investigation into the need to observe and record children's behavior. Explores appropriate settings and curricula for preschoolers. The primary objective of this course is to further students' understanding and ability to interpret behavior. As an application of this understanding, students then explore ways in which young children learn and how best to furnish the settings, materials, and methodology for healthy growth and development. Prerequisite: PSY* 122. Corequisite: ECE* 210.

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 a play and 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) (needs to be entered into Banner—check) (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* 210 and PSY* 122.

EDU 201 Teaching Exceptional Children in the Regular Classroom**3 S.H.**

Presents laws, guidelines, and procedures designed to help teachers understand the needs of exceptional students and to help identify the characteristics of, issues related to, and instructional considerations for students with disabilities.

ECE* 299 Independent Study in Early Childhood Education (EDU 290)**3 S.H.****EARLY CHILDHOOD EDUCATION – 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 variations 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.

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.

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 111 CAD: Electrical****1 S.H.**

Introduces students to the computer-aided drawing software package 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. (ETC 110 Electrical Graphics/CAD may be substituted for this course.)

EET 120 Electric Circuits I**4 S.H.**

Introduces DC circuit fundamentals, including Ohm's and Kirchoff's Laws. Students will learn to analyze DC series, parallel, and series-parallel circuits using basic and advanced network techniques. Includes the advanced network techniques of mesh and nodal analysis, superposition principle, Thevenin, Norton, and maximum power transfer theorems. Students will also learn the fundamentals of capacitors and inductors and be able to analyze DC circuits with these components in them as well. In the lab, students will use basic test equipment for DC circuits, including analog multimeters, digital multimeters, and power supplies, to measure DC electrical quantities. Students will also construct a variety of DC circuits and apply basic and advanced network techniques to these circuits. Three hours of lecture / three hours of laboratory. Prerequisite: MAT* 095 or sufficient score on the mathematics placement test.

EET 122 Electric Circuits II**4 S.H.**

Presents AC circuit fundamentals, complex algebra analysis of AC series, and parallel and series-parallel circuits using basic and advanced network techniques. Includes the advanced network techniques of mesh and nodal analysis, superposition principle, Thevenin, Norton, and maximum power transfer theorems. Students will also learn the fundamentals of transformers, series and parallel resonant circuits, and three phase systems, including the electrical relationships that govern each. In the lab, students will use basic test equipment for AC circuits, including analog and digital multimeters, signal sources, and oscilloscopes. Students will also construct a variety of AC circuits and apply basic and advanced network techniques to these circuits. Three hours of lecture / three hours of laboratory. Prerequisite: EET 120. Corequisite: MAT* 175.

EET 130 Electronics I**4 S.H.**

Presents a variety of discrete electronic devices, including diodes, BJTs, FETs, and other special purpose devices. Students will also learn how to apply each device and how to analyze circuits with these devices in them. In the lab, students will construct various electronic circuits with the devices introduced and will test and verify the circuits' intended operation. Three hours of lecture / three hours of laboratory. Prerequisite: EET 122.

EET 230 Electronics II**4 S.H.**

Presents several integrated circuits operations, including operational amplifiers, voltage regulators, and timer/waveform generators. Students will also learn the circuit operation of single- and multistage amplifiers, active filters, differential amplifiers, power supplies, and oscillators using integrated circuits and discrete devices. In the lab, students will construct various electronic circuits with linear integrated circuit devices and will test and verify the circuits' intended operation. Three hours of lecture / three hours of laboratory. Prerequisites: EET 130 and MAT* 187.

EET 240 Electrical Machinery and Controls**4 S.H.**

Presents 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 also 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 122, EET 130, and MAT* 187.

EET 250 Digital Electronics**4 S.H.**

Presents binary, octal, decimal, and hexadecimal number systems; Boolean algebra; and logic gate operation and applications. Students will also learn how basic and complex digital circuits operate, including multivibrators, counters, registers, memories, and primary mathematical circuits. In the lab, students will investigate modern digital applications through hands-on experience in digital logic circuitry, including logic pulsers, probes, and analyzers. Three hours of lecture / three hours of laboratory. Prerequisite: Instructor's permission.

EET 252 Microprocessors**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 registers, memory, input/output devices, bus structure, interfacing techniques, and timing operations. In the lab, students will be introduced to a commercial microprocessor trainer and will learn how to use this trainer to write and test a variety of software programs using arithmetic, logic, and branch instructions. Three hours of lecture / three hours of laboratory. Prerequisite: EET 250.

EET 260 Electronic Communications**4 S.H.**

Presents modern electronic communications based on an informational and circuit/systems framework. Students will also 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 230.

EET 262 Satellite Communications**4 S.H.**

Presents satellite communications concepts and the characteristics of electromagnetic waves, signal sources, and receiving elements. Students will also examine the major components of TVRO facilities, along with physical and mechanical requirements for TVRO installation. In the lab, students will perform experiments to gain hands-on experience in head-end room preparation; TVRO components and systems; and voice, data, and image satellite communications systems. Students will also study the installation, operation, and test procedures associated with 3- and 5-meter satellite systems. Three hours of lecture / three hours of laboratory.

EET 270 Optoelectronics**4 S.H.**

Introduces the operation and application of various devices used in the optoelectronic industry, including LEDs, PINs, APDs, LCDs, phototransistors, optocouplers, and displays. Students will also study concepts in the physics of light, photodetection, electroluminescence, and electro-optic displays. In the lab, students will learn how to construct various electronic circuits incorporating optoelectronic devices and how to test and verify their intended operation. Three hours of lecture / three hours of laboratory. Prerequisites: EET 230 and EET 250.

EET 272 Introduction to Fiber Optics**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 also 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.

EET 281 Projects Laboratory**1 S.H.**

Presents electronic fabrication techniques, prototype construction, and printed circuit board layout and production. Students will apply this knowledge to design, fabricate, test, and present a finished electronic project of their interest. Requires a technical manual and oral presentation of the project. Prerequisites: EET 230 and EET 250 or instructor's permission.

EET 295 EET Internship**3 S.H.**

Provides first-hand, real-life work experience in the field of EET. 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.

ELECTRONICS TECHNICIAN**ETC 104 Fundamentals of Electricity****4 S.H.**

Surveys basic electricity, including generation, measurement, and analysis of linear networks involving DC, AC, and pulses. The laboratory component includes experiments in basic electricity for the certificate program involving DC, AC, and pulse circuits with inductors, capacitors, transformers, and other applicable components. Three hours of lecture / three hours of laboratory.

ETC 110 Electronics Graphics/CAD**3 S.H.**

Introduces the concepts and practical applications of computer-aided design for electrical and electronic circuits, using software such as ORCAD. Also introduces the simulation of electrical and electronic circuits. Three hours of lecture in a laboratory setting. ETC 110 can be substituted for EET 111.

ETC 120 Electronics Project**3 S.H.**

Develops the theory of operation and mechanical layout for an electronics project. Presents types of documentation (text, graphics, and data) used in technical reports. Prerequisites: ETC 104 and 110. Corequisites: ETC 122 and 124.

ETC 122 Electronic Circuits and Devices**4 S.H.**

Surveys digital and solid state circuitry. Emphasizes logic circuits and semiconductor theory. Includes logic gates and circuit applications, diodes, transistors, rectifiers, and power supplies. Three hours of lecture / three hours of laboratory. Prerequisite: ETC 104.

ETC 124 Printed Circuit Board Construction**4 S.H.**

Introduces the latest design and fabrication techniques used to manufacture printed circuit boards. Students are trained in both board drafting and CAD design of PCB schematics. The lab exposes students to a printed circuit board manufacturing environment. Students follow a working electronic circuit from design to production. Three hours of lecture / two hours of laboratory. Prerequisites: CET 116 and ETC 104.

ENGINEERING SCIENCE**EGS 211 Statics****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.

EGS 212 Dynamics**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: EGS 211 and MAT* 268.

EGS 221 Fundamentals of Circuit Analysis (Course has not been offered in the past two years) **3 S.H.**

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: EGS 211 and PHY* 221. Corequisite: MAT* 285.

EGS 222 Analog Design Laboratory (Course has not been offered in the past two years) **3 S.H.**

Provides experience in designing and evaluating analog electrical and electronic circuits. Emphasizes out-of-laboratory preparation and troubleshooting. Introduces laboratory instruments, including oscilloscopes, signal sources, and meters. This is a required elective for Engineering Pathway students majoring in either Electrical/Systems Engineering or Computer Science/Engineering. Two hours of lecture / two hours of laboratory. Prerequisites: EGS 211 and PHY* 221. Corequisites: EGS 221 and MAT* 285.

EGS 231 Introduction to Chemical Engineering (Course has not been offered in the past two years) **3 S.H.**

Introduces the fundamentals of chemical processing. Quantitatively applies chemical and physical principles to chemical process industries and to the solution of industrial problems. Covers material and energy balances, first law of thermodynamics, and chemical and physical equilibria. This is a required elective for Engineering Pathway students majoring in Chemical Engineering. Prerequisites: CHE* 122, EGS 211, and MAT* 256.

ENGLISH**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. Corequisite: ENG* 073. (Students who test into ENG* 043 must also register for ENG* 073). Exit criteria: "C" or better and instructor's 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: Instructor recommendation. Prerequisites: ENG* 043 and ENG* 073. 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. Corequisite: ENG* 043. Exit Criteria: "C" or better and instructor recommendation.

ENG* 114 Children's Literature (ENG 107)**3 S.H.**

Develops students' knowledge and appreciation of 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* 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* 043 and/or ENG* 063, or ESL* 169 and ESL* 161 with a grade of "C" or better. (If students place into both ENG* 043 and ENG* 073, 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* 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, promoting active reading strategies through extensive critical analysis and synthesis.

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) (Course has not been offered in the past two years)**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* 240 Studies in World Literature (ENG 213)**3 S.H.**

Presents various forms of literature in the Western Tradition. Treats recurrent thematic and narrative patterns: the Faust legend, myths, archetypes, and other configurations from the Renaissance to the present. Includes such authors as Moliere, Goethe, Blake, Ibsen, and Chekhov. Prerequisite: ENG* 101 or instructor's permission.

ENG* 241 World Literature I (ENG 214)**3 S.H.**

Surveys world literary masterpieces in the Western Tradition, from ancient works to the Renaissance. Treats recurrent archetypal, thematic, and psychological patterns of major legends and myths, along with their cultural-social-historical influences on modern artistic expression. Includes literary and philosophical selections, e.g., excerpts from the Hebrew Scriptures (Old Testament); Homeric epics; Greek philosophy, mythology, and classical drama; *The Aeneid*; excerpts from the New Testament; and *The Divine Comedy*. 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* 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* 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 I and II and Advanced ESL I and II. All are designed to develop listening, reading, speaking, and writing skills. Students entering Intermediate ESL I must have fundamental skills in English. After successful completion of the Intermediate ESL I and Intermediate ESL II levels, students may be required to take concurrent additional specialized ESL courses in Reading, Writing, Technical English, and Pronunciation, along with the Advanced I and Advanced II courses. *Students intending to take ENG* 101 or COM* 171 must receive a grade of "C" or better in ESL* 161 and ESL* 169..*

ESL* 131 Integrated Skills III (ESL 110)**3 S.H.**

Stresses speaking and listening comprehension skills for simple statements and questions about everyday topics. Reinforces reading skills, vocabulary development, and grammatical structures through class discussions, small groups, and individual instruction. This course satisfies the Foreign Language requirement. *(This course may be taken concurrently with ESL* 139.)*

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: ESL* 131 or 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* 159.)*

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. 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. Offers computer-assisted sections to improve word processing. 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 in ESL* 161 and ESL* 169.* 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 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. *Students intending to take ENG* 101 or COM* 171 must receive a grade of "C" or better in ESL* 161 and ESL* 169 or permission from ESL* 169 instructor.* This course satisfies the Foreign Language requirement. *(This course may be taken concurrently with ESL* 139, ESL* 161 and ESL* 180.)*

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* 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.

ENVIRONMENTAL SCIENCE (See TOXICOLOGY)

ENVIRONMENTAL ENGINEERING TECHNOLOGY

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* 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.

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, FTA* 116, and PHY* 122.

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)**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)**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)**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 QuarkXPress. 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.

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.

HIM* 102 Introduction to Health Information Systems (HIM 122) (Course has not been offered in the past two years)

3 S.H.

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) (Course has not been offered in the past two years)

3 S.H.

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) (Course has not been offered in the past two years)

3 S.H.

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) (Course has not been offered in the past two years)

3 S.H.

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) (Course has not been offered in the past two years)

3 S.H.

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 on 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) (Course has not been offered in the past two years)

3 S.H.

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) (Course has not been offered in the past two years) **3 S.H.**

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 affects 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) (Course has not been offered in the past two years) **3 S.H.**

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.

HOSPITALITY MANAGEMENT

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 Basic Baking and Pastry Arts (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* 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.

HSP* 212 Equipment Design and Layout (HSM 212) (Not offered in last two years)**3 S.H.**

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 Baking and Pastry Arts 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* 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* 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) (Not offered in last two years)**3 S.H.**

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. The experience must be new to the student; 120 internship hours; 280 approved work experience hours. 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.**

Provides a new view of study skills and encourages students to recognize the importance of people and communication as they apply these skills to succeed in college.

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 service field. Compares the variety of structures, goals, and methods of service delivery, focusing on the human service network of New Haven.

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* 272 Field Work Seminar II (HSR 242)

3 S.H.

Serves as a support group and sharing session for field site experiences. Continues to focus on the theories, principles, tasks, and skills of the helping process for this course. Corequisite: HSE* 282.

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.

HSE* 282 Human Services Field Work II (HSR 244)

3 S.H.

Builds on interpersonal skills and theoretical knowledge from prior foundation courses and applies them to experiential learning at the field placement. Students in the Career Option will be expected to be more integral participants in their second field experience. Requires a minimum of eight hours a week at the placement location. Corequisite: HSE* 272.

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 110 Manufacturing Processes

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. Prerequisite: ARC* 133.

MFG 111 Geometric Dimensioning and Tolerancing

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 112 Computer Aided Manufacturing I

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 110.

MFG 114 Principles of Quality Control

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.

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 210 Materials of Engineering

3 S.H.

Focuses on the structure and properties of engineering materials. Addresses material selection, processing, and heat treatment. Addresses the changes in structure and properties during forming, machining, and heat-treating operations. The laboratory portion demonstrates 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: MAT* 095 or sufficient score on the mathematics placement test.

MFG 212 Computer Aided Manufacturing II

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 112.

MFG 214 Applied Engineering Concepts**4 S.H.**

Introduces the concept of time as applied to manufacturing. Trains the student in the process of logical thinking during problem solving sessions. Provides a basic understanding of standard cost systems. The laboratory portion applies the theory, principles and techniques learned from classroom instruction to a variety of practical problems. Three hours of lecture / two hours of laboratory. Prerequisite: MFG 110.

MFG 220 Process Engineering**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 110.

MFG 224 Tool Design**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 110 and MFG 110.

MFG 226 Computer Integrated Manufacturing I**4 S.H.**

Covers computer-generated CNC programming, robot programming, analog programmable logic control programming, and interfacing of robots, controllers, and machine tools. Discusses 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 laboratory. Prerequisites: CAD 110 and MFG 112.

MFG 228 Statistical Process Control**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 110.

MFG 234 Robotics I**4 S.H.**

Utilizes robots as examples of microprocessor-controlled second order positional servo-systems. Introduces applications of robots, emphasizing computer interfacing and control. The laboratory portion provides experience in robot operation and execution of basic tasks. Implements basic operations through a teach pendent or indirectly via a computer. Three hours of lecture / two hours of laboratory.

MFG 236 Computer Integrated Manufacturing II**4 S.H.**

Builds on CIM skills with a more in-depth focus on work cells, robotics, and flexible manufacturing systems. Also integrates such aspects as business data processing, CAD/CAM, and flexible manufacturing systems typical of the manufacturing industry. The laboratory portion includes setting up a work cell and integrating these cells into the flexible manufacturing system. Individual applications examine these processes step by step and allow for independent creativity. Business processes will be applied where appropriate. Three hours of lecture / two hours of laboratory. Prerequisite: MFG 226.

MFG 238 Statistical Process Improvement**4 S.H.**

Focuses on intermediate statistical quality control methods. Includes a continued study of probability, including an introduction to Bayes' Theorem, statistical problem solving through statistical tests of significance, correlation and regression methods, and an introduction to the analysis of variance. Prerequisite: MFG 226.

MFG 241 Non-Destructive Testing**4 S.H.**

Introduces non-destructive testing techniques commonly used in industry, including liquid penetrant, magnetic particle, eddy current, ultrasonics, and radiography. Stresses requirements for personnel certification. The laboratory portion introduces the practical application of non-destructive testing equipment and techniques. Students must perform, evaluate, and document liquid penetrant, magnetic particle, eddy current, ultrasonics, and radiographic inspections. Three hours of lecture / two hours of laboratory.

MFG 242 Cost Estimating**4 S.H.**

Applies the principles and techniques of process design and work analysis/measurement to the calculation of manufacturing cost estimates from drawings. Uses laboratory exercises in turning, drilling, milling, and CNC and grinding to evaluate the application of estimating procedures. The laboratory portion also applies the principles learned in Process Engineering and Applied Engineering Concepts to the development of a detailed engineered cost estimate for a part or product. Three hours of lecture / two hours of laboratory. Prerequisites: MFG 110 and 220.

MFG 246 Manufacturing Internship**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 of 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 arithmetic of whole and signed numbers and introduces algebra. Topics include integers, fractions, decimals, percents, and basic concepts of algebra. *Credit does not count toward degree requirements or graduation.

MAT* 095 Elementary Algebra Foundations (MAT 101)**3 S.H.***

Reviews signed numbers. Introduces the language of algebra, followed by the concepts of adding, subtracting, multiplying, and dividing rational algebraic expressions. Covers factoring, first degree equations and inequalities, graphing linear equations in two variables, and solving word problems. Prerequisite: MAT* 075 or sufficient score on the mathematics placement test. *Credit does not count toward degree requirements or graduation.

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 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. Prerequisite: MAT* 095 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. Prerequisite: MAT* 095 or sufficient score on the mathematics placement test.

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. Prerequisite: MAT* 095 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. Prerequisite: MAT* 095 or sufficient score on the mathematics placement test.

MAT* 141 Number Systems (MAT 141)**3 S.H.**

Intended for students whose major fields of study require no specific mathematical preparation. This course examines logical structures, patterns, and methods of abstraction as they pertain to a variety of basic mathematical topics, including set theory and number theory. Some historical aspects of mathematics are considered. This course may be used to satisfy the mathematics requirement for graduation. Prerequisite: MAT* 137 or sufficient score on the mathematics placement test.

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- 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: MAT* 137 or sufficient score on the mathematics placement test.
- MAT* 143 Mathematics for Elementary Education 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: MAT* 137 or sufficient score on the mathematics placement test.
- MAT* 144 Mathematics for Elementary Education II (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: MAT* 143.
- 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 Statistics with Technology (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: 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: MAT* 137 (course has been terminated) 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* 187 Precalculus Mathematics (MAT 140)** **3 S.H.**
Addresses advanced trigonometry, complex numbers, exponential equations, and logarithms. Includes such topics from analytic geometry as conic sections in preparation for Calculus I. Uses the graphing calculator. Prerequisite: MAT* 175 or MAT* 172 and instructor's permission.
- 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 (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.
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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 114 Mechanics-Statics****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 220 Strength of Materials**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 114. Corequisite: MAT* 175.

MEC 222 Materials Science**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 230 Machine Design**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 220, MEC 222, and CAD 110.

MEC 232 Heat Transfer**3 S.H.**

Covers one- and two-dimensional flow and the principles of convection, conduction, and radiation. Investigates steady state conditions. The laboratory portion reinforces lectures, with experiments from the fields of fluid mechanics, thermodynamics, and heat transfer. Two hours of lecture / two hours of laboratory. Prerequisite: PHY*122. Corequisite: MAT* 254.

MEC 234 Electromechanical Controls**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 236 Fluid Mechanics**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 114. Corequisite: MAT* 187.

MEC 238 Thermodynamics**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 114. Corequisite: MAT* 187.

MEC 290 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 105. Includes analysis of form, structure, and compositional techniques. Prerequisite: MUS* 115 or instructor's permission.

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* 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 minimum 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* 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 Brandenburg 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 "Tim 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, Schubert, 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* 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 Copeland. Discusses some contemporary compositions in jazz, rock, country, and new musical styles. Suggested prerequisite: MUS* 101.

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* 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. Corequisite: 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* 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* 101 and NMT* 111 (and 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: NMT* 101 (and PHY* 101 for NMT* AS degree students). 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, radionuclide therapies, splenic imaging, nonimaging studies, and cardiovascular and respiratory systems. Students perform Internet searches and present oral reports on findings pertinent to current nuclear medicine procedures. Students also present a case study that relates to one of the organ systems being studied. Prerequisites: NMT* 101 and NMT* 121 (and PHY* 101 for NMT* AS degree students only). Corequisites: NMT* 211 (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. Prerequisites: NMT* 101 and NMT* 121 (and PHY* 101 for NMT* AS degree students only). 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. Prerequisites: NMT* 101 (for NMT* AS degree students) and NMT* 121 and 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* 201.

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. Prerequisites: NMT* 111, NMT* 112, NMT* 211, and 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 and the central nervous, endocrine, skeletal, gastrointestinal, and genitourinary systems. Students will perform Internet searches and present oral reports on findings pertinent to current nuclear medicine procedures. Students will also present a case study that relates to one of the organs being studied. Prerequisites: NMT* 201, BIO* 211, and BIO* 212. 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* 121. Corequisite: NMT* 211.

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. Prerequisite: NMT* 121. Corequisite: NMT* 211.

NMT* 230 Nuclear Medicine Research Methods**3 S.H.**

Provides an opportunity to pursue, in great depth, continuing education or individual scientific research projects. Students will write abstracts and present the results of their research. Students are required to submit a formal research paper the topic of which must be approved by the instructor. Prerequisites: NMT* 121, NMT* 201, and NMT* 202. Corequisite: NMT* 212.

NMT* 231 Clinical Internship IV**0.5 S.H.**

Students attend clinical training Monday through Friday, eight hours per day. Corequisite: NMT* 212.

NURSING**NSG*101 Fundamentals of Nursing****6 S.H.**

Focuses on the impact of stressors on the ability of individuals and families to meet common health needs. Students begin to apply principles from Nursing, social, behavioral and biological sciences and humanities to assist patients in long-term and acute care to adapt to the stress of illness. Concepts related to health promotion, maintenance are introduced. The nature of nursing, health care systems, basic interpersonal, communication and teaching skills and selected nursing skills are presented. Students begin to apply the nursing process using critical thinking skills as a basis for safe and effective Nursing practice. Four hours class work, five hours clinical and two hours college laboratory per week. Prerequisite: Admission to nursing program. Corequisites: BIO 211, ENG 101, PSY 111. Fall semester only.

NSG*112 Family Health Nursing**8 S.H.**

Focuses on the adaptation of individuals and families across the life span experiencing the stress of the childbearing cycle, mental illness, infectious disease and surgery. The course emphasizes the role to the nurse in health promotion, maintenance and restoration and the development of competence in use of effective interpersonal, communication and teaching skills. Principles from social, behavioral and biological sciences and humanities are incorporated. Application of the nursing process using critical thinking skills as a basis for safe and effective care is stressed. Four hours class work, twelve hours clinical and two hours college laboratory per week. Prerequisites: NSG*101, BIO 211, ENG 101, PSY 111 Corequisites: BIO 212, PSY 122, ENG 102. Spring semester only.

NSG*120 Nursing Care of Adults & Children I**3 S.H.**

Focuses on the adaptation of individuals and families across the life span experiencing the stressors of selected common health problems such as impaired mobility and metabolism. Concepts related to health promotion, maintenance and restoration are integrated throughout the course. Competence in the use of effective interpersonal, communication and teaching skills is stressed. Students demonstrate application of the nursing process using critical thinking skills as a basis for safe and effective care and develop beginning clinical and technological competence in providing care to groups of patients. Four hours class work, fourteen hours clinical and two hours college laboratory per week. Prerequisites: NSG 112, BIO 212, PSY 122, ENG 102. Summer session only.

NSG* 201 Nursing Care of Adults & Children II**9 S.H.**

Focuses on the adaptation of individuals and families across the life span experiencing the stressors of selected common health problems such as impaired metabolism, oxygenation and circulation. Concepts related to health promotion, maintenance and restoration are integrated throughout the course. Effective interpersonal, communication and teaching skills are stressed. Students begin to incorporate the nursing process using critical thinking skills as a basis for safe and effective care and demonstrate clinical and technological competence in providing care to groups of patients. Four hours class work, fourteen hours of clinical and two hours college laboratory per week. Prerequisites: NSG* 120 Corequisites: BIO 235, CSC 101 or equivalent computer course. Fall semester only.

NSG* 202 Nursing Care of Adults & Children III**9 S.H.**

Focuses on the adaptation of individuals and families across the life span experiencing the stressors of selected complex health problems such as abnormal cell growth, neurological impairment, fluid and electrolyte imbalance and multisystem failure. Concepts related to health promotion, maintenance and restoration are integrated throughout the course. Use of effective interpersonal, communication and teaching skills in a variety of settings is stressed. Students are expected to incorporate the nursing process using critical thinking skills as a basis for safe and effective care of groups of patients with complex health problems. Four hours class work, fourteen hours clinical and two hours college laboratory per week during the first ten weeks of the course. During the last four weeks of the course ten hours of content related to professional trends and issues is presented and clinical hours increase to sixteen hours/week. Prerequisites: NSG* 201, BIO 235, CSC 101 or equivalent computer course. Corequisites: ENG * 298, COM 101. Note: All degree requirements must be completed by the end of NSG* 202 to be eligible to take NCLEX – RN exam. Spring semester only.

NUTRITION AND FITNESS**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. Prerequisites: NTR* 101, NTR* 102, and MAT* 095.

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 sufficient score on the mathematics placement test. (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 of, 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* 103.

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 Dietetic Practicum 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 Dietetic Practicum II (DTN 210) **1 S.H.**
Refines skills in delivering 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.

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. Uses arithmetic and simple algebra. Includes classroom demonstrations.

PHY* 109 Fundamentals of Applied Physics (PHY 109) **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. The laboratory portion emphasizes the collection and interpretation of data in the following topics: measurement, motion, forces in one dimension, concurrent forces, work and energy, simple 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. Corequisite: MAT* 115.

PHY* 121 General Physics I (PHY 121) **4 S.H.**
Applies physics methodology to measurement, motion, work and energy, and the thermal properties of matter, employing algebra and trigonometry. 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 thermodynamics, 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 basic laws and principles of physics. Uses elementary concepts of calculus. Addresses classical dynamics, rigid-body motion, harmonic motion, wave motion, acoustics, relativistic dynamics, and thermodynamics. Three hours of lecture / three hours of laboratory. Prerequisite: Secondary school physics. Corequisite: MAT* 268.

PHY 222* Calculus-Based Physics II (PHY 212) **4 S.H.**
Presents electric and magnetic fields, electromagnetic waves, and quantum effects. Introduces atomic physics. Three hours of lecture / three hours of laboratory. Prerequisites: PHY* 221 and MAT* 268.

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) (Course has not been offered in the past two years)**3 S.H.**

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.

PSY* 111 General Psychology I (PSY 101)

3 S.H.

Presents the history of psychology. Introduces the scientific method, measurement, nervous system, growth and development, perception, motivation, emotion, learning behavior disorders, and personality.

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.

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 behavior 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* 231 Theories and Methods of Counseling and Therapy (PSY 231)

3 S.H.

Covers the process of counseling, the dynamics of human change, and the various models of therapeutic intervention. Explores client-centered (non-directive) therapy, Gestalt therapy, psychoanalysis, behavior modification, chemotherapies, and several others. Uses films, tapes, and case studies to present the various methods and processes of change. Prerequisites: PSY* 111 and PSY* 245.

PSY* 232 Methods and Practice of Counseling and Therapy (PSY 232)

3 S.H.

Develops skills in interviewing, observing, and recording; coaching new behavior patterns; client-centered (non-directive) counseling; some forms of Gestalt therapy; basic skills in crisis-intervention counseling; and short-term counseling prior to referral. Presents basic components of behavior-modification programs and other therapist-supervised programs. Explains how to offer supportive assistance in group therapy and conduct sessions under the supervision of a therapist. Prerequisites: PSY* 111, PSY* 245, and PSY* 231.

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.

Identifies psychological disorders by their various symptoms and explores underlying causes where possible. Investigates various kinds of treatment programs. Focuses on neurosis, anxiety and breakdown of ordered behavior, acute fright, defense mechanisms, neurotic conflict, symptom formation, anxiety states, phobias, dissociated conditions, hysteria, delinquency and criminal behavior, psychopathic personality, deviant sexual behavior, alcoholism, psychosomatic disorders, manic and depressive disorders, and schizophrenia. Prerequisite: PSY* 111.

PSY* 247 Industrial and Organizational Psychology (PSY 151) (Course has not been offered in the past two years) **3 S.H.**

Applies psychological principles to business and industry. Includes discussion of job evaluation and analysis, management relations, and individual and group relations.

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.**

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. Corequisite: RDT* 112.

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.

RDT* 113 Clinical Internship I **1 S.H.**

Students attend clinical training Monday through Friday, eight hours per day. Prerequisite: RDT* 111.

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 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 and RDT* 201.

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* 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 and RDT* 212.

RDY* 205 Dosimetry and Computer Assisted Treatment Planning (RDY 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: RDY* 102, RDY* 112, and PHY* 111. Corequisites: RST* 213 and RDY* 211.

RDY* 211 Clinical Practicum III (RDY 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: RDY* 112. Corequisites: RDY* 202 and RDY* 205.

RDY* 212 Clinical Practicum IV (RDY 221) **2 S.H.**
Through supervised direct patient care and phantom work, students must demonstrate proficiency in mandatory clinical objectives and competencies, dosimetry, and medical health physics objectives. Students are expected to complete all required set-up competencies. Prerequisites: RDY* 205 and RDY* 211. Corequisite: RDY* 204.

RDY* 218 Clinical Internship III **1 S.H.**
Students attend clinical training Monday through Friday, eight hours per day. Prerequisite: RDY* 211.

RDY* 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: RST* 221. Corequisite: RDY* 212.

RDY* 223 Radiation Physics II (RDY 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: RDY* 212.

RADIOGRAPHY

RAD* 104 Introduction to Radiography (RAD 111) **3 S.H.**
Introduces hospital organization and professional ethics. Also introduces elementary radiation protection, general radiographic anatomy and positioning, medical terminology, and the basic principles of exposure. Prerequisite: Acceptance into the Radiography Program. Corequisites: RAD* 193 and BIO* 211.

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* 193 and BIO* 211.

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 training. Students must spend two days a week in the clinic on Level I training areas, mastering basic competencies. Prerequisite: Acceptance into the Radiography Program. Corequisites: RAD* 104, RAD* 105, and BIO* 211.

RAD* 194 Clinical Practicum II (RAD 125) **1 S.H.**
Enables mastery of Level I task objectives and competencies. Introduces Level II objectives and procedures through simulated labs and supervised practice in the clinic. Students must spend two days a week in the clinical setting. Prerequisites: RAD* 104, RAD* 105, RAD 193, and BIO* 211. Corequisites: RAD* 204, BIO* 212, and RST* 213.

RAD* 196 Radiographic Anatomy and Procedures III**3 S.H.**

Through classroom lecture and clinical practice, introduces sophisticated radiographic procedures and equipment, organ systems, anatomy, and medical terminology. 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: RAD* 104, RST* 213, and PHY* 111. Corequisites: RAD* 196 and RAD* 291.

RAD* 204 Radiographic Anatomy and Procedures II (RAD 214)**3 S.H.**

Introduces sophisticated radiographic procedures, anatomy, equipment, and medical terminology, while refining film critique and patient care skills. Prerequisites: RAD* 105, RAD* 193, and BIO* 211. Corequisites: RAD* 194 and BIO* 212.

RAD* 205 Special Imaging (RAD 220)**3 S.H.**

Introduces state-of-the-art specialized organ imaging, equipment, and procedures. Introduces image intensification, serial radiography, cineradiography, TV and video systems, tomography, computerized technologies, and magnetic resonance imaging. 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* 218 Senior Seminar (RAD 222)**3 S.H.**

This course is characterized by the active role expected of students in the research, preparation, presentation, and discussion of clinical areas. The course requires a good working knowledge of radiography. It prepares senior students for successful entry into the field of Radiography and improves their critical thinking skills. Theoretical and practical studies are integrated through research and application. Students are required to perform independent research and prepare a professional presentation. Students are also required to define, compare, analyze, and assess medical practice in health care delivery. 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. Reviews Federal regulations. 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, providing hands on training in advanced imaging. Through demonstration and practice, students refine all prerequisite tasks and objectives and complete all exit competency requirements. Three days a week are spent in the clinical setting. Prerequisites: RAD* 196 and RAD* 291. Corequisites: RAD* 205, RAD* 206, and RAD* 218.

RADIOLOGICAL SCIENCES 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* 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, RAD* 105, and RAD 193 or RDT* 101, RDT* 111, and PHY* 111. Corequisites: RAD* 203 or RDT* 102 and RAD* 112.

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 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 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.

READING (SEE ENGLISH)

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 Family, Child, and Community Health (SOC 110)**3 S.H.**

Introduces sources of information about health and the agencies and services available for the health of children, families, and communities. Health areas discussed include nutrition, pediatrics, prenatal care, family planning, health insurance, mental health, occupational health, and such environmental concerns as lead poisoning and air and water pollution.

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* 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.*)

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.

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.

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, sufficient score on the placement test, or instructor's permission.

SPA* 221 Introduction to Puerto Rican Studies I (SPA 221)

3 S.H.

Surveys Puerto Rican literature: prose, drama, poetry, and essays from colonial times to the present.

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* 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, sufficient score on the placement test, or instructor's permission.

TOXICOLOGY

TOX* 110 Environmental Toxicology and Science Orientation (TOX 110)

1 S.H.

Introduces environmental toxicology as it relates to clinical, environmental, and regulatory concerns. Relates environmental science to the quality of the earth's ecosystems and the movement of contaminants through them. Includes research principles, clinical toxicology of drugs, air, hazardous and solid waste, water pollution, and land concerns. One hour of lecture. Field trip(s) required.

TOX* 114 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.

TOX* 118 Biochemistry / Organic Chemistry (TOX 118) (Course has not been offered in the past two years)

4 S.H.

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.

TOX* 160 Toxicology Internship (TOX 160)

4 S.H.

Places students in a suitable internship in an industry of interest.

TOX* 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: TOX* 110.

TOX* 210 Principles of 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.

TOX* 212 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.

TOX* 214 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.

TOX* 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: TOX* 214.

TOX* 226 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: TOX* 210 or instructor's permission.

TOX* 230 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.

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* 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 - Catalogs, Applications	285-2010
Affirmative Action Officer	285-2415
Athletic Office	285-2208
Alumni Association	285-2322
Bookstore — Long Wharf	865-5614
Bookstore — North Haven	239-3049
Business and Industry Services	285-2310
Business Office	285-2009
Cafeteria — Long Wharf	285-2248
Cafeteria — North Haven	285-2339
Career Ladders Institute	285-2295
Career Services/Job Placement — Long Wharf	285-2144
Career Services/Job Placement — North Haven	285-2318
Center for Educational Services — Long Wharf	285-2217
Center for Educational Services — North Haven	285-2348
College Life/Student Activities	285-2208
College of Technology	285-2185
College Writing Center	285-2245
Continuing Education/Community Services	285-2502
Counseling — Long Wharf	285-2090
Counseling — North Haven	285-2316
Dean of Administration	285-2021
Dean of Academic Affairs	285-2070
Dean of Research and Development	285-2322
Dean of Students	285-2210
Early Learning Center (Child Care)	285-2131
Educational Technologies — Long Wharf	285-2268
Educational Technologies — North Haven	285-2508
Evening Administrator — Long Wharf	285-2082
Evening Administrator — North Haven	285-2406
Facilities and Events Management	285-2223
Financial Aid	285-2030
Foreign Student Advisor	285-2010
Gateway Community College Foundation, Inc.	285-2322
General Information:	
Long Wharf Campus	285-2000
North Haven Campus	285-2406
Human Resources	285-2110
Information Technologies — Help Desk - Long Wharf	285-2040
Information Technologies — Help Desk - North Haven	285-2410
Institutional Advancement	285-2296
Institutional Research	285-2415
Instructional Design	285-2108
Library — Long Wharf	285-2057
Library — North Haven	285-2340
Mail Room	285-2239
Mathematics and Science Center	285-2358
Payment of College Charges	285-2009
Placement Testing	285-2220
President	285-2061
Public Information and Marketing	285-2065
Purchasing	285-2100
Records – Long Wharf	285-2020
Records – North Haven	285-2304
Registration - Course Schedule — Long Wharf	285-2020
Registration - Course Schedule — North Haven	285-2306
Security (Guard House – Long Wharf)	789-6408

Security (Lobby – Long Wharf)	285-2246
Security – North Haven	285-2333
Student Activities/College Life	285-2208
Student Disability Services – Long Wharf	285-2231
Student Disability Services – North Haven	285-2317
Student Government – Long Wharf	285-2242
Transcripts – Long Wharf	285-2020
Transcripts – North Haven	295-2304
Tutoring – Long Wharf	285-2217
Tutoring –North Haven	285-2348
Veterans Affairs	285-2144
Videoconference Center	285-2349
Voice Mail System	285-2200
Website	www.gwcc.commnet.edu
Women’s Center	285-2151

ACADEMIC DEPARTMENTS CHAIRS AND DIRECTORS

Allied Health	Victoria Bozzuto	285-2390
Arts/Humanities	Chester Schnepf	285-2205
Business	Carol Trifiatis	285-2170
Engineering Technologies	Lee Panagoulas	285-2373
Mathematics/Science	Miguel Garcia	285-2358
Nursing	Sheila Solernou	285-2393
Social Science	Daniel Courcey	285-2152

PROGRAM COORDINATORS/CONTACTS

Art	Nicholas Halko	285-2241
Automotive	Wayne Demske	285-2334
Aviation Maintenance	Wayne Demske	285-2334
Biomedical Engineering	Thomas McGrath	285-2378
Business	Carol Trifiatis	285-2170
Business Office Technology	Marsha Janik	285-2176
Computer Engineering	Donald Lostritto	285-2377
Computer Science	Frank Gallagher	285-2169
CT College of Technology	Robert Tremblay	285-2185
Culinary Arts	Stephen Fries	285-2175
Diagnostic Medical Sonography	Valerie Hylas	285-2383
DARC	Lauren Doninger	285-2321
Dietetic Technology	Marcia Doran	285-2389
Early Childhood Education	Susan Logston	285-2187
Early Childhood Special Ed.	Earnestine Kirkland	285-2189
Electrical Engineering	Donald Lostritto	285-2372
English	Franz Douskey	285-2206
Entrepreneurial Studies	Rose Bednarz	285-2198
Environmental Science	Roy Francis	285-2368
Food Service Management	Stephen Fries	285-2175
Hotel-Motel Management	Stephen Fries	285-2175
Hospitality Management	Stephen Fries	285-2175
Human Services	Theresa Jeffries	285-2106
Manufacturing Engineering	Tsu-Chien Cheu	285-2374
Mathematics	Miguel Garcia	285-2358
Mechanical Engineering	Cyprian Ukah	285-2375
Nuclear Medicine	Kathleen Murphy	285-2381
Nursing	Sheila Solernou	285-2393
Radiation Therapy	Gina Finn	285-2390
Radiography	Julie Austin	285-2382
Retail Management/ Fashion Merchandising	Rose Bednarz	285-2198
Science	Michael Loteczka	285-2183
Toxicology	Roy Francis	285-2368
Transportation	Roy Francis	285-2368
Wastewater/Water Management	Roy Francis	285-2368

PERSONNEL

Faculty – Full-Time

- Norman Abell** (1988) Professor-Biology. B.S., Villanova University; D.P.M., Ohio College of Podiatric Medicine
- Thomas M. Adams** (1983) Professor-Computer Engineering Technology. B.S., Sacred Heart University; M.S., University of Miami
- John Argento** (1983) Professor-Chemistry/Math/ Physics, B.S., Fairfield University; M.A.L.S., Wesleyan University; C.A.G.S., Southern Connecticut State University
- Julie Austin** (2000) R.T. (R) (M) Associate Professor, Program Coordinator, Radiography. A.S., Gateway Community-Technical College; B.S., Albertus Magnus College
- Vincent Baldassano** (2004) Instructor–Art. B.A. Wagner College; M.F.A. University of Oregon
- Rose Marchisa Bednarz** (1992) Professor-Business, 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
- Claudia Bedoya-Rose** (2000) Assistant 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) Assistant Professor–Nursing. A.S. Quinnipiac College; B.S.N. Central Connecticut State University; M.S.N. University of Connecticut
- Alex Boateng** (2004) Instructor–English. B.A. University of Ghana; M.A. Yale University
- James Wesley Brogan** (1993) Associate Professor-English. B.A., University of Iowa; M.A., Ph.D., Indiana University
- Mark S. Bruno** (1994) Associate Professor-General Science. B.S., Southern Connecticut State University; M.S., University of Connecticut
- Carol Brutza** (1988) Professor and Program Coordinator-English as a Second Language. B.A., University of Arizona; M.A., New York 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
- Tsu-Chien Cheu** (1993) Associate Professor-Manufacturing Engineering Technology. B.S. National Taiwan University; M.S. University of Wyoming; Ph.D. University of Texas-Austin
- Robert Costanzo** (1994) Professor-Automotive Technology. B.S., Central Connecticut State University, ASE World Class Technician
- Daniel J. Courcey, Jr.** (1969) Professor-Social Science; Chair, Social Science Department. A.B., Providence College; M.A., Southern Connecticut State University; C.A.G.S., Fairfield University
- Jesse J. Davis** (1971) Professor-Psychology. B.S., Central State College (Ohio); M.S., Central Connecticut State University
- Carmelita Valencia-Daye** (2004) Assistant Professor–Early Childhood Education. B.S. University of Philippines; M.Ed. University of North Carolina, Chapel Hill
- Teresa Russo DeMars** (1992) Instructor-Psychology. B.A., University of Connecticut; M.S., Southern Connecticut State University; Licensed Professional Counselor (L.P.C.)
- Wayne Demske** (1999) Associate Professor-Automotive Technology. A.S., Mattuck Community College; B.S., Western Connecticut State College
- Lauren Doninger** (2001), LADC, LPC, CCS, Associate Professor and Program Coordinator–Drug and Alcohol Recovery Counselor (DARC) Program. B.S., Nasson College; M.A., Central Connecticut State University
- Marcia Swan Doran** (1998) R.D., CD-N, Associate Professor-Nutrition and Fitness: Dietetic Technology Program/ Fitness Specialist Program Coordinator, B.S., University of Connecticut; M.S., University of Bridgeport
- Franz T. Douskey** (1977) Professor-English. B.A., M.A., Goddard College
- Thomas M. Fahy** (2004) Instructor–Psychology. B.A. Tufts University; M.A. Tufts University, University of Hartford; Psy.D. University of Hartford
- Gina Finn** (1999) R.T. (T) Program Coordinator, Radiation Therapy, A.S., Gateway Community College, B.S. Central Michigan University.
- Richard Fiore** (1982) Professor-Chemistry/Math/ Physics; B.A., University of Connecticut; M.S., C.A.G.S., Southern Connecticut State University
- Lucille Flores** (2004) Instructor – Business Office Technology. B.B.A. Baruch College of the City University of New York; M.S. University of Hartford

Stephen Fries (1987) Professor-Marketing. 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., Associate Professor and Clinical Coordinator – Nuclear Medicine Technology. B.A., Western Connecticut State University; A.S., South Central Community College

Frank J. Gallagher (1985) Professor and Coordinator, Computer Science Technology. B.S., M.S., Southern Connecticut State University; M.S., University of New Haven

Miguel Garcia (1978) Professor-Chemistry/Math/ Physics; Department Chair, Mathematics/ Science. B.S., University of Puerto Rico; M.Phil., Yale University

Russell Gaudio (1991) Professor-Developmental English, Writing Center Coordinator; A.B., Fairfield University; M.A., New York University

G. J. Gerard (1982) Professor-Electrical Engineering Technology. A.A.S.E.T., SUNY at Farmingdale; B.S.E.T., New York Institute of Technology; M.Div., Gordon-Conwell Theological Seminary; M.S., Southern Connecticut State University

Claudia Haekel (2004) Assistant Professor–Nursing. B.S. Southern Connecticut State University; M.S. University of Connecticut

Nicholas F. Halko (1994) Associate 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) Assistant 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

Patricia Hartnett (1982) Professor-Computer Science Technology. B.A., University of Connecticut, M.S., Rensselaer Polytechnic Institute

Martha Hayes (1996) Associate Professor-English. A.S., Housatonic Community College; B.A., M.A., Southern Connecticut State University

Claire Hendricks (1998) Assistant Professor–Sociology/Anthropology, B.A., London University; M.A., Columbia University

Valerie Hylas (2000) RDMS, RDCS, Associate Professor and Program Coordinator-Diagnostic Medical Sonography. B.S., State University of New York SUNY-Downstate

Marilyn Jacobi (1994) Associate Professor-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)

Marsha B. Janik (1990) Professor and Program Coordinator-Business Office Technology. B.S., M.S., Central Connecticut State University

Theresa J. Jeffries (1998) LCSW, Associate Professor and Program Coordinator-Human Services. B.A., Quinnipiac College; M.S.W., Columbia University School of Social Work

Kerin R. Kelsey (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

Karen L. Kessler (2002) Assistant Professor–Nursing. A.A.S., Kingsborough Community College; B.S.N., Hunter College; M.S., University of Wisconsin–Madison

Allyson V. Kinney (1986) Professor-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

Lorraine Li (2004) Instructor–Economics. B.A. Columbia University; M.S. Columbia University

Susan E. Logston (1972) Professor and Program Coordinator-Early Childhood Education. B.A., West Virginia University; M.A., University of Connecticut

Donald Lostritto, PE (1980) Professor-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, Program Coordinator-Science. B.S., M.S., University of Connecticut

Mark D. Lynch (1998) Assistant Professor-Chemistry. B.S., Boston College; M.S., Southeastern Massachusetts University; Ph.D., Iowa State University

Julie Perego Mangini (1987) A.R.R.T. (R). Professor-Radiography, Yale School of Radiology, B.S., New Hampshire College; M.Ed., Cambridge College

Carmen Marciano-Davis (2000) Instructor-Psychology. B.A., M.A., Ph.D. Duquesne University

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.B.M.E., University of Connecticut

Cathy G. Mebane (2000) Assistant Professor–Early Childhood Education. B.S., M.S., Southern Connecticut State University

Victor C. Medina (1998) Associate 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

Donald N. Mei, CPA (CT) (1971) Professor-Accounting and Political Science. B.S.Ec., Wharton School of Finance, University of Pennsylvania

Salma Mody(2004) Assistant Professor-Nursing. M.P.H. Yale University, M.S.N., CNM, Yale School of Nursing, L.C.E.H., Bombay College

Victoria Morse (2004) Instructor–Foreign Languages. B.A. Vassar College; M.A. Middlebury Graduate School of French

Kathleen Murphy (1991) A.R.R.T. (N), C.N.M.T., Professor and Coordinator-Nuclear Medicine Technology. A.S. South Central Community College; B.S., M.S., University of New Haven

Radhika Nandlal (2003) Assistant Professor–Nursing. B.S.N. Hunter College; M.S.N. Southern Connecticut State University

Lee Panagoulis (1979) Professor/Program Coordinator-Electrical Engineering Technology. B.S.E.E., University of New Haven; M.S., 6th Year Certificate, Southern Connecticut State University

Saverio Perugini (1993) Professor-Mathematics. B.S., M.S., Central Connecticut State University, Ed.D. Teachers College, Columbia University

Albert Pesticci (1981) Professor-Electronic Technician. B.S., University of New Haven; M.S., 6th Year Certificate, Southern Connecticut State University

Louise A. Petroka (1994) Professor-Math/Science. B.S., Central Connecticut State University; M.A., Central Connecticut State University

David Pettigrew (1990) Professor-Automotive Technology. B.S., Western Connecticut State University, M.A. Western Connecticut State University

Marcia Piwarzyk (1989) Professor-Art. B.S., University of Connecticut; M.S., Central Connecticut State University

Janice B. Potochney (1980) Professor-Accounting. B.S., University of Connecticut; M.B.A., University of Bridgeport; C.M.A.

Deborah Raimondo (1998) Assistant Professor – ESL, A.B., Gordon College; M.A., Central Connecticut State University; M. Div., Eastern Baptist Theological Seminary

Andrew V. Randi (1997) Assistant Professor-Culinary Arts. A.S., Johnson & Wales College; B.S., University of New Haven; M.S., University of New Haven

Richard Rees (2002) Assistant Professor-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) Instructor–Automotive. A.A.S. Gateway Community College; B.S. Central Connecticut State University

Doree Robinson (1983) Professor-English. B.A., Russell Sage College; M.A. Northeastern University

Heidi Rydene (1993) Professor-Biology. B.S., University of Rhode Island; M.S., Southern Connecticut State University

Douglas W. Salyer (1981) Professor-Music. B. Music, Shenandoah Conservatory of Music; M.A., Radford University

Rachel Schettenhelm (2004) Instructor-Mathematics. B.S., Michigan State University, M.S. Toledo University

Chester H. Schnepf (1984) Professor/Chairperson-Humanities. B.F.A., New York Institute of Technology; M.A., Hofstra University, C.A.G.S., Trinity College

John P. Scippa (1972) Professor-Media, Film and Human Communication. B.S., University of Detroit; M.S., Fairfield University

John H. Scott III (1998) Associate 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

Daniel Sullivan (1992) Professor-Biology. A.A.S., St. Louis Community College; B.S., Ramapo College; M.S., Rutgers University, M.P.H., University of Connecticut.

Robert E. Tremblay (1987) Professor-Physical Sciences; Coordinator, Connecticut Pathway Programs. B.S., M.S., 6th-year degree, Southern Connecticut State University

Carol Trifiatis (1990) Professor/Chairperson-Business. B.S., Charter Oak College, M.B.A., Sacred Heart University. Certificate of Advanced Study-Finance, Fairfield University

Cyprian Ukah (1986) Professor. Program Coordinator-Mechanical Engineering Technology. B.S.M.E., Trinity College; M.S.M.E., University of New Haven

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

Faculty – Part-Time

Roxanne Amiot, A.S , B.S., Housatonic Community College, Central Connecticut State University
Michael Armstrong, A.S., B.S., Quinnipiac College, Southern Connecticut State University
Lawrence Baldino, M.S., MBA Southern Connecticut State University and University of New Haven
Nathanael Betancourt, A.S. Gateway Community College
Bartley Block, B.S., M.S., Ph.D., Penn State University, NW State University
William Bowie, B.S., Ph.D., Trinity College, Howard University
Michelle Breaker, B.S., M.S., Purdue University
Laurence D. Brunson, B.S., M.S., University of New Haven, University of California, Berkeley
Andrew L. Carrano, B.A., M.S., Southern Connecticut State University
Toni D. Cates, B.A., M.A., Wesleyan University, Fairfield University
Moshe Cohen, B.S., M.S., University of New Haven
Patricia Colandrea, A.S., B.S., MBA, Housatonic Community College, Fairfield University, University of New Haven
Daniel Corr, B.M., M.M., Cornish College, Yale University
Russell J. Corriveau, A.S., B.S., M.S., WSTC, Central Connecticut State University
Kerry Courcey, B.M., M.M., Cornish College, Yale University
Wendy H. Davenson, A.A., B.A., MFT, Southern Connecticut State University, Kent State University and Centenary College
Amy Davison, B.S., M.A., Central Connecticut State University, University of Connecticut
Michelle DellaCamera, B.A., M.S. Certificate, Albertus Magnus College, Southern Connecticut State University
Raymond DeLucia, B.A., B.S., Xavier University, Boston College
Ilias Diamantis, BSME, MSME, University of New Haven
Sharleen Dickinson, B.A., M.A., Hamilton College, University of Wisconsin
Jacalyn Diesenhouse, B.A., M.A., Northeastern University, Columbia University
Daniel Duarte, B.S., M.A., Bryant College, Central Connecticut State University, University of Connecticut
Thomas G. Fahy, B.S., M.S., Southern Connecticut State University, Quinnipiac College
Carol Fletterick, B.A., M.S., Marietta College, University of Connecticut Health Center
Bion Francis, B.S., University of Bridgeport
Michael Freeman, B.S., M.S., New Hampshire College, Springfield University
Lois Fucci, B.S., M.A., University of Hartford, University of Pennsylvania, Fairfield University
James Galla, A.S., B.S., Mattatuck College, Central Connecticut State University
Svetlana Gekhman, M.S., Polytechnical Institute
VincentGinnetti, B.S., M.S., Southern Connecticut State University
Janet Greenberg, B.S., M.A., Central Connecticut State University, University of Hartford
Catherine Hall, B.A., M.A., Southern Connecticut State University, University of New Haven
Lawrence D. Hally, B.S., M.S., Southern Connecticut State University
Richard Hazall, A.S., B.S., Eli Whitney RVTS, Central Connecticut State University
James Hughes, B.A., B.S., Sacred Heart University, Southern Connecticut State University
Peter L. Jamison, OD, B.A., Illinois College, New York University
Frances Joyce, M.Ed., University of Hartford
Stanley Kapinos, B.S., M.A., Fairfield University, Southern Connecticut State University
Patricia Kelly, B.A., M.A., Hunter College
Grady Kirkland, Jr., B.S., M.S., Morris College, Northeastern University, University of New Haven
Henry F. Kisel, B.A., M.A., Assumption College
Joseph Klimaszewski, B.A., M.S., Fairfield University, University of Bridgeport, Sacred Heart University
Steven Klobukowski, B.S., M.S., Providence College and Rensselaer Polytechnic Institute
Joan Krall, BME, M.S., University of Hartford, Central Connecticut State University
Susan Landino, B.S., M.S., Southern Connecticut State University
Ernest Laudano, B.S., M.S., Quinnipiac University

Heidi Loiseau, A.S., B.A., M.S., University of New Haven, Fordham University
Bart Lombardi, M.S.E.E., MBA, Dartmouth College, NYU Graduate School of Business Administration
Linda Lubrano, B.A., M.A., Bowling Green University, Spring Arbour College
Brian Lynch, B.S. MSW, University of New Haven, University of Connecticut
James Martens, B.S., M.A., M.S., Charter Oak State College, Wesleyan University
Elizabeth McCormack, B.A., M.A., Southern Connecticut State University, University of Connecticut
Susan Miller, RN, M.S., Flushing Hospital School of Nursing, NY Institute, Long Island University
Mary Moore, B.S., M.S., University of Bridgeport, Central Connecticut State University, University of Connecticut
John L. Morico, B.A., B.S., Providence College
Robert L. Mullen, Sc.D., MBA, M.S., University of New Haven, University of Iowa, Penn State University, Massachusetts Institute of Technology
Murty Narumanchi, B.A., MBA, Bernard Branch College, Andhra College
Robert Novotny, B.A., M.A., Sacred Heart University, Western Connecticut State University
Thomas O'Neil, B.A., M.A., College of the Holy Cross, Southern Connecticut State University
Robert Paglia, B.A., M.A., University of New Haven, Trinity College
John Pappy, B.A. B.Ed., M.S., Southern Connecticut State University, University of Kerala India
Vicki Peters, B.S., M.S., Southern Connecticut State University, Indiana College
Matthew Pohl, B.A., M.A., Southern Connecticut State University, University of Connecticut
Thomas Ragozzino, B.S., M.A., Fairfield University, Trinity College
Susan Reinhart, B.A., M.F.A., Vassar College, Tyler School of Art
Cheryl Robertson, B.S., M.S., Southern Connecticut State University
Wilfredo Rosado, B.S.E.E., Bridgeport Engineering Institute of Fairfield University
Mestaxia Samsel, B.S., M.S., University of New Haven
Nzinga Shani, B.A., M.A., Hartford Graduate Center, Southern Connecticut State University
Cheryl A. Shannon, B.S., MHSA, Antioch New England, New Hampshire College
Anthony Solli, B.S., M.S., University of Notre Dame, Quinnipiac College, Southern Connecticut State University, Fairfield University, Yale University
Joseph A. Spadaro, B.S., M.S., Trinity College, University of New Haven
Jean Tencza, B.A., M.S., Southern Connecticut State University, University of New Haven
Kimberly Thomas, B.S., M.S., Ph.D., University of Rhode Island, St. Joseph College, Southern Connecticut State University
Susan Traudt, B.S., M.S., University of New Haven, Quinnipiac University
Marjorie Van Cleef, M.Ed., Temple University, Oberlin College
Susan Weldon, B.S., MRP, University of Massachusetts, University of Vermont
Jeanne Whalen, B.S., M.S., Southern Connecticut State University
Narinder Whitehead, B.S. MPH, Southern Connecticut State University, Nairobi University
Anne Williams, B.A., MBA, Temple University, University of Connecticut
Brendan Williams, B.A., MBA, University of Connecticut
Masnoh Wilson, B.S., M.A., Sacred Heart University, University of Liberia
Pamela Worthy, B.A., M.A., M.S., Southern Connecticut State University, Wesleyan University, Williams College
Leon Yacher, B.A., M.A., University of New Mexico

Administration

◆ President's Office

Dorsey L. Kendrick (1999) President. B.S., Union University; M.S., Cardinal Stritch University; Ph.D., Walden University

Carol Guerrero McHugh (1970) Executive Assistant to the President. A.S., Post Junior College

Christine Scillia-Rivera (2004) Clerk Typist. A.S. Gateway Community College

❖ Institutional Advancement

Vilandria Turner (2002) Director. B.S.J., Northwestern University; M.B.A., Cornell University

❖ Marketing and Public Relations

Evelyn Cernadas-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

Mari Walker (1983) Office Assistant. A.S., South Central Community College.

Larry Laukhuf (2002) Coordinator-Graphics Duplication Central Services, A.A.S., City University of New York

◆ 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 Raiola (2002) Director of Finance and Administrative Services. B.S., University of Connecticut, M.B.A., University of Connecticut

John G. Moyher (1977) Accountant. B.S., University of Bridgeport

Irene A. Beauchemin (2001) Accountant, A.S., Gateway Community College, B.S. University of New Haven

Carlo Marinuzzi (1994) Assistant Accountant. B.S., University of New Haven

Carol Mason (1993) Assistant Accountant

George Spietzack (1998) Assistant Accountant

• Purchasing

Lisa Cherhoniak (1985) Associate Fiscal Administrative Officer

Linda A. Pelham (1980) Purchasing Assistant

Kelly Ann Levinson (1998) Head Clerk. A.S., Gateway Community College

Michael Martone (1998) Office Assistant

❖ Facilities and Events Management

Arthur W. Corda (1976) Director. Facilities. B.A., M.S., C.A.G.S., Southern Connecticut State University

Charlene Thomas (1988) Office Assistant. Diploma for Secretarial Science, Stone Business School

Sandra Garde (1999) Office Assistant.

• Maintenance

Building Maintenance Supervisor - Vacant

Joseph Prince (1986) Building Superintendent I

Louis Diaz (1994) Skilled Maintainer

Scott Plamondon (1998) Qualified Craft Worker

Anthony Benoit (1986) Lead Custodian

Gerald Ciaburri (1995) Lead Custodian

Teodomiro Reyes (1999) Lead Custodian

Leroy Smith (1999) Lead Custodian

Henry Grimme (2004) Custodian P/T

Maribel Lugo (2004) Custodian

❖ Human Resources

Lucille E. Brown (1999) Director. B.A., Jackson State University; J.D., Notre Dame University

Lisa Corbeil (2005) Secretary II. A.S. Middlesex Community College, Certification-Paralegal Litigation

Christie M. Piscitelli (1998) Personnel Officer I. B.S., Quinnipiac College

Kim A. Dogolo (1985) Payroll Officer I.

Nancee Giannini (1998) Payroll Clerk. A.S., University of New Haven; A.S., Gateway Community College; B.S. Charter Oak State College

Shelley Frosolone (2005) Clerk Typist. A.S. Gateway Community College

❖ Information Technology

Lawrence Salay (2004) Director. B.S. Mercy College, M.B.A. University of Phoenix

John Desrosiers (1996) Assistant Director of Information Technology. A.S., Gateway Community College

Brian Bouthillier (1998) Technician II. A.S., Housatonic Community College

William Miklos (1998) Technician II. A.S., Gateway Community College

Michael Heaphy (2000) Technician II. A.S., Gateway Community College

Eric Stoehr (2000) Technician II

◆ Academic Affairs Division

Dean of Academic Affairs

Dean - Vacant

Angela Richter (1998) Administrative Assistant. ARRT(T), A.S. Gateway Community-Technical College; B.S. University of Bridgeport

RoseAnn Spagone (1996) Secretary I

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

Michelle Fraser (1998) Office Assistant. A.S., Gateway Community College; B.S., University of New Haven; M.S.M., Albertus Magnus College

China Byrd (2000) Clerk-Typist.

Iris Lopez, (2004) Clerk-Typist, A.S., Middlesex Community College

❖ Academic

Allied Health:

Victoria L. Bozzuto (1994) A.R.R.T. (T). Director. A.S., South Central Community College; B.S., Southern Connecticut State University; M.Ed., Cambridge College

Suzanne Chamberlain (2004) Clinical Coordinator, Radiography, A.S. Gateway Community College, B.A. University of Rhode Island

Alice M. Pandolfi (1999) CHES. Program Facilitator-Allied Health, B.A., The Catholic University of America; M.P.H., Southern Connecticut State University

Early Childhood Education:

Carol Annette (1998) ECE Accreditation Facilitator, B.S., University of CT; M.S., Southern Connecticut State University

Engineering and Applied Technologies:

Director - Vacant

Donna Bruno (1986) Office Assistant. Diploma for Executive Secretary, Stone School of Business; Certificate, Gateway Community College

Math/Science:

Patricia S. Iovene (1998) CHES. Academic Associate. A.S., Gateway Community College; B.S., Quinnipiac University; M.P.H., Southern Connecticut State University

Nursing:

Sheila B. Solernou (2002) R.N., MSN, Director – 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

❖ **Early Learning Center**

Marjorie Weiner (2004) Director. B.S. Wheelock College; M.A. Wesleyan University

Susan Glynn (1983) Teacher. B.S., M.S., Southern Connecticut State University

Marion Williams (1983) Teacher. A.S., South Central Community College; B.S., New Hampshire College

Linda Alston (1998) Teacher. B.A., Connecticut College

Stella Okparanta (1990) Assistant Teacher. A.S., South Central Community College; B.A., Albertus Magnus; M.A., University of New Haven

Annamarie Amendola (2001) Assistant Teacher. A.S., Gateway Community College

Mary Palermo (1998) Secretary I

❖ **Instructional Design and Development**

Wendy Samberg (1999) Director. B.A., SUNY, Empire State College; M.A., Columbia University

Wanda Edwards (1999) Secretary I. CPI Certificate Data Entry, Bridgeport (pt-am)

• **Educational Technologies**

Alfonzo Lewis (2001) Educational Technologies Specialist. B.A., University of Connecticut

❖ **Library**

Michele N. Cone (1981) Director. B.S., Brooklyn College-CUNY; M.L.S., Pratt Institute, C.A.G.S., Southern Connecticut State University

Karen Kramer (2002) Librarian. B.A., Albertus Magnus College; M.A., University of Connecticut; M.L.S., Southern Connecticut State University

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

William Smith (2004) Library Associate. B.A. University of Massachusetts

Shauna Carrano (2004) Library Associate. B.S., Southern Connecticut State University

❖ **Corporate and Continuing Education**

David N. Cooper (2003) Dean. B.S., University of Connecticut; Ed.D., Rutgers University

• **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**

Joseph P. Maynard (1998) Continuing Education Coordinator & Campus Administrator. A.S., South Central Community College; B.A., Southern Connecticut State University

- **Workforce Development**

Ann Cohen (1996) Coordinator, Continuing Education. B.S., City College of New York; M.Ed., William Paterson State College

Jaime French (2004) Director, Step Forward. B.A. SUNY, Albany; M.A. University of Utah

- ◆ **Research and Development Division**

Dean of Research and Development

Margaret Bauer (1978) Dean. B.A., M.B.A., Long Island University; Sc.D., University of New Haven

Susan K. Swirsky (1983) Administrative Assistant. Diploma for Executive Secretary, Academy for Business Careers; A.S., Gateway Community College

Julia L. Arbour (1979) Office Automation Systems Specialist

- ❖ **Institutional Research**

Vincent Tong (2000) Director / Affirmative Action Officer. B.A. New York University, M.A. University of Michigan, Ph.D. Yale 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

Kathleen Delaney (1990) Administrative Assistant. A.S., South Central Community College

- ❖ **Student Development/Services**

Cheryl A. Pegues (1986) Director. B.A., West Virginia State College; M.S., Southern Connecticut State University

Sandra Williams-Eskridge (2001) Student Services Associate. B.A., Fort Valley State College; M.S., Fort Valley State College

- **Academic Advising**

Marilyn J. Bergen (1987) Director. B.A., M.A., Fairfield University

- **Financial Aid**

Raymond R. Zeek (1994) Director. B.A., Franklin & Marshall College

Nancy C. Robinson (1980) Administrative Assistant. A.S., South Central Community College

Lydia E. Vega (1999) Office Assistant. A.S., Gateway Community Technical College, CPI Certificate Data Entry, Bridgeport

- **Student Activities/College Life**

Roberta Prior (2004) Director. B.A. Central Connecticut State University; M.S. Western Illinois University

Cerella Griffin (1999) Secretary I. A.S. South Central Community College, A.S. Gateway Community College; B.S., Charter Oak State College

❖ Admissions

Catherine E. Surface (1993) Director. B.A., M.S., 6th-year Certificate, Southern Connecticut State University
Kim M. Shea (1994) Associate Director of Admissions and Academic Advising. B.S.W., M.S.W., Southern Connecticut State University
Barbara Horowitz (1990) Unit Supervisor
Pamela DeDona (1994) Processing Technician
Sansanee Bijananda (2000) Office Assistant. Certificate, Gateway Community College
Meisen Coe (2004) Clerk.

❖ Career Ladders Institute

Alfy Roby (2003) Retention Coordinator - Empowerment Zone. B.S., University of Connecticut; A.R.M., Insurance Institute.
Elizabeth Vega (2003) Academic Assistant – Career Ladders Institute. A.S., Gateway Community College; B.S.W., Southern Connecticut State University

❖ Career Services

Robert A. Miles (1972) Director. Licensed Professional Counselor. B.A., Cornell University; M.S., Southern Connecticut State College; Sixth Year Certificate, Southern Connecticut State University
Wanda Edwards (1999) Secretary I. CPI Certificate Data Entry, Bridgeport (pt-pm)

❖ Center for Educational Services

Luis F. Melendez (1990) Director. B.S., M.A., University of Connecticut

❖ Counseling

Tina McHugh (1978) Director. B.S., Albertus Magnus College; M.S., L.P.C. Southern Connecticut State University
Maria Torres-Nosel (1993) Counselor. C.A.G.S./L.P.C., B.S., M.S., University of Bridgeport
Kellie Byrd Danso (2004) Counselor. M.Ed., NCC, North Carolina State Counseling Education Program
Jonah Cohen (2004) Counselor. B.A., Trinity College; M.S., Central Connecticut State University
Ivette Garcia (1999) Secretary I.

❖ Records

David M. Swirsky (1982) Registrar. B.A., University of Hartford; M.S., Southern Connecticut State University
Maribel Lopez (2005) Associate Registrar. B.S., Southern Connecticut State University
Lee Barden (1992) Processing Technician.
Barbara Thomas (1999) Office Assistant. A.S., Gateway Community College
Susan Tiano (1999) Office Assistant. A.S., Gateway Community College
Elides Montalvo, Jr. (2004) Clerk.

❖ Student Disabilities Services

Toni Page (1999) ADA Coordinator/Learning Disabilities Specialist. B.S., Southern CT State University; M.S., Southern Connecticut State University

Emeriti

- Frank D. Archangelo** (1981-2003) Associate Professor Emeritus-Chemistry/Math/Physics, A.S., Hartford State Technical College; B.S., Southern Connecticut State University
- Mary P. Birdsey** (1978-2003) Professor Emerita-Business Office Technology. B.S., M.S., Central Connecticut State University
- William F. Celotto, PE** (1979-1999) Professor of Mechanical Engineering Technology Emeritus. B.S.E., University of Connecticut; M.S. University of Connecticut
- Aureliu D. Ciufecu** (1970-2003) Professor Emeritus-Languages. L.H.B., Romanian College of Salonica, Macedonia; Ph.D., University of Rome "La Sapienza;" A. Certificate, International University "Pro Deo," Rome; Diploma, Institute of Arts and Culture, "Accademia di Teatro," Rome
- Francis E. Crowley** (1986) Professor Emeritus-English. B.A., Fairfield University; M.A., Trinity College; Ph.D., State University of New York at Buffalo
- William J. Dean** (1977-2003) Professor Emeritus-Social Science; B.A., Sacred Heart University; M.A., Fairfield University
- Diana P. Duarte** (1972-2003) Professor Emerita-Business Office Technology. B.S., M.A., C.A.G.S., University of Connecticut
- Bion H. Francis** (1980-2003) Professor Emeritus-Business. B.S., Massachusetts Institute of Technology; M.S., Southern Connecticut State University
- Martha M. Hirsch** (1986-1997) Associate Professor of Gerontology Emerita. B.A. Quinnipiac College, M.S. Southern Connecticut State College
- Joyce Donen Hirschhorn** (1969-1991) Professor of Human Communication Emerita. B.A., University of Michigan; M.A., Teachers College, Columbia University
- Joyce Mason Holmes** (1992) Associate Professor of Mathematics Emerita. A.A., South Central Community College; B.A., Albertus Magnus College; M.S. Wesleyan University
- L.C. Hopes** (1972-1992) Professor of Sociology Emeritus. A.S. South Central Community College, B.S. Southern Connecticut State University, M.S. Bucknell University
- Theodora Howell** (1977-1992) Associate Professor of Humanities Emerita. B.S., University of Pittsburgh; M.S., Southern Connecticut State University
- Edith G. Jaquiere** (1980-1992) Dean of Academic Affairs Emerita. B.S. Central Connecticut State College, M.A. Trinity College; Ph.D. Union Graduate School
- Timothy Kao** (1972-1997) Professor of Economics Emeritus. B.A., National Taiwan University; M.B.A., Seton Hall University
- W. Richard Krall** (1971-2003) Professor Emeritus-Psychology. B.M.E., M.A., University of Denver; Ph.D., University of Connecticut; Ph.D., Walden University, Clinical Neuropsychology
- Dominic Longo** (1979-1992) Associate Dean of Instruction Emeritus. B.S., New Haven Teachers College, M.S., 6th-year Certificate, Southern Connecticut State University
- Joseph E. Magyar** (1968-1997) Associate Dean of Community Services Emeritus. B.S. Fairfield University; M.S. Xavier University; Ed.D. Nova University
- Ann B. Manner** (1977-1992) Professor of Chemistry/Math/Physics Emerita. B.A. Russell Sage College; M.S., Ohio State University
- Stuart J. McEnerney** (1970-1989) Professor of Mathematics Emeritus. B.S., Southern Connecticut State College; M.B.A., University of New Haven; M.A., Ph.D., University of Connecticut.
- Richard S. Muir, PE** (1982-2003) Assistant Professor Emeritus-Electrical Engineering Technology. B.E.E., Union College
- Karl S. Paecht** (1977-1992) Associate Professor of Manufacturing Engineering Technology Emeritus. B.S., Central Connecticut State College; M.S., Central Connecticut State University
- Bonnie A. Pease** (1979-2003) Librarian Emerita. B.A., Ricker College; M.L.S., Southern Connecticut State University
- Ann G. Robinson** (1972-1999) Professor of Psychology Emerita. B.A., North Carolina Central University; M.A., Wayne State University; Ed.D., Nova University
- Kenneth R. Robinson** (1970-1988) Professor of Sociology Emeritus. B.S., Springfield College; M. Div., Episcopal Theological School; Ed. M., Boston University
- Ahmed M. Roblé** (1968-2003) Professor Emeritus-Business. B.S., Haile Selassie University; B.A., M.A., University of Colorado; Ph.D., University of Connecticut
- Irving Rosenthal** (1971-1990) Professor of Sociology and Anthropology Emeritus. B.A., M.S., Southern Connecticut State College
- Edmund L. Sobolewski** (1977-1987) Dean of Students Emeritus. B.S., University of Bridgeport, M.A., University of Connecticut; C.A.G.S., University of CT
- Thomas J. Sullivan** (1977-1986) President Emeritus. B.S., Boston College, M.Ed., Northeastern University, Ed.D., Nova U.
- William E. Thumbeck** (1970-2003) Professor Emeritus-Mathematics. B.S., M.S., Central Connecticut State College; Ed.D., Nova University

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Charles Casson, Torrington Toyota
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Buddy Marvin, Marvin Toyota
Joe McCavanagh, Lynch Toyota
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BIOMEDICAL ENGINEERING TECHNOLOGY

Raymond Acosta, Chief Biomedical Engineering Technician, Yale-New Haven Hospital
Jim Brown, Chief Biomedical Engineer, Middlesex Hospital
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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)
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 J. Reihl, President, NovaMed Corporation (GNHSTC 1984)
David Roden, Installation Team Leader, Philips Medical Systems (GNHSTC 1985)

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Letamarie Highsmith, Vice President, Specialized Packaging Group, Inc.
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Debbie Mele, Sales Manager, Omni New Haven Hotel at Yale
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Paul Danzer, Housatonic Community College
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Erling Murtha-Smith, University of Connecticut School of Engineering
Ann Taft, Charter Oak State College
R.E. Tremblay, Gateway Community College
John Walters, Department of Higher Education
Marcel Wood, Associate Dean, University of Connecticut, School of Engineering

COMPUTER ENGINEERING TECHNOLOGY

Harry Anderson, Account Executive, Command Systems
James Auten, Manufacturing Analyst, Advanced Graphics
John Chiarella, Executive Vice President, Silano Development
Deborah Clifford CNE/CNI, Vice President, Education Division, Hartford Business Machines
Terry Edwards, President, SpectraData
Thomas Gendrachi, Ward College, University of Hartford
Roland Hamel, General DataCom
Jay Halpern, Program Director, South Central United Cerebral Palsy
Wayne Smith, Senior Scientist, Lucid, Inc.
Henry Voegeli, University of New Haven

COMPUTER SCIENCE TECHNOLOGY

Jerome Blackmon, Technical Support Analyst, Yale
Moshe Cohen, Senior Systems Analyst, SNET
Dr. Evan Confrey
Peter Davis, President, Davis & Associates
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Lincoln A. Douglas, Director-Prevention and Intervention, ALSO-Cornerstone, Inc.
Dan Duffy, Loan Officer, TriState Mortgage Corporation
Edward Dwyer, Owner, Viable Solutions
Eija Faulkner, Training and OD Specialist-Training and Organizational Development, Yale-New Haven Hospital
Anne Fortunato, Director, Recording for the Blind and Dyslexic
Gail Franc, Store Manager, IKEA
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Stephen Haag, Sales Manager, CyberChrome
Larry Halle, Team Leader-Applications Development, SBC/SNET
Rachel Hannas, Director of Social Services, The Mary Wade Home
Bonnie Hill, CPA, Hill & Associates, PC
Tami Hodges, President, EAP, Inc.
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Martha A. Hunt, President and CEO, CT Economic Resource Center
Joan P. Huwiler, Communications and Marketing Manager, Regional Water Authority
Allen Jackson, Senior Vice President, Webster Insurance
Stan Jarosz, Electronics Department, E.C. Goodwin Regional Vocation-Technical School
Joanne Kelly, Director, SBC/SNET
Karole Kirchgessler, Executive Director, Greater New Haven Convention and Visitors
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Roslyn Lev, Vice President, The Design Company
Andrea Lobo-Wadley, Hill Health Corporation
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Emily S. Masters, Corporate Relations Manager-Paramedic, Hunter's Ambulance Service
John Maziarz, Key Account Representative, Souther CT Gas Company
Chris McLaughlin, McLaughlin Real Estate
Anthony P. Melito
Dan Mezick, President, New Technology Solutions, Inc.
Beatrice Ndu Okwu, Director, Girl Scouts-CT Trails Council, Inc.
Carissa Neubig, Chief Operating Officer, Gaylord Hospital
Alicia Nunez, Director, Human Resources, IKEA
Richard A. Nunn, President, Molded Industrial Plastics
Prakash D. Parikh, Vice President, SNP Technologies, Inc.
Howard Reitman, Vice President, Reitman Personnel
Ed Romine, Sales Representative, ABC Printing & Mailing
Alan & Joanne Russo, Owners, Care Management Group, LLC
Janet S. Ryan, CTO, Regional Water Authority
Robert Santy, President, Regional Growth Partnership
Ruth Schuler, Success Coaching Services
Gerald Shaff, President, Custom Products Corporation
N'zinga Shani, Community Education Coordinator, New England Organ Bank
Carol M. Smith, Legal Administrator, Sussman, Duffy & Segaloff, PC
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Sheila Zimmerman, LMFT, LADC, Rushford Center, Program Manager Adult PHP, DARC adjunct faculty

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ENVIRONMENTAL SCIENCE AND TOXICOLOGY

R. Scott Allen, Enforcement Officer, Inland Wetland and Water Courses Commission

Dr. Murali Atluru, Diversified Technology Consultants

Patrick Bowe, Air Management Bureau, CT Department of Environmental Protection

Charlie Cappannari, Cytec Industries, Inc.

Mary Chesley, Environmental Monitoring Laboratory, Inc.

David Ditta, Complete Environmental Testing

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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

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George Charlesworth, Attorney

Donald Dimenstein, Director of Elderly Services (Ret.)

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Paul Musco, Shoreline Chiropractic Services

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Natalie Mihalchick TRD, West River Health Care Center of Milford

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Marita Shurkus, Continuous Improvement Coordinator, Regional Workforce Development Board of Greater New Haven

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Ann LaCamera, RN, Recruiter, Yale-New Haven Hospital
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Mary Ann McGirr, student, Gateway Community College Nursing Program
Marina Syrax, student, Gateway Community College Nursing Program
Paul Fra, student, Gateway Community College Nursing Program
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Dorothy Decker RD, Consultant Dietitian
Pam Galasso, RD, Nutrition Consultant
Laurie Jordan, Clinical Nutrition Manager, Bridgeport Hospital
Patricia Franco RD, A.S. South Central Community College, Clinical Staff Dietitian, Hospital of St. Raphael
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Colleen Marcello, Dietetic Technology Student; Gateway Community College

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Anita Dodson, Radiation Therapy Department, Trumbull Oncology
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DIRECTIONS:

LONG WHARF CAMPUS, 60 SARGENT DRIVE, NEW HAVEN, CT 06511

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 left onto Sargent Drive. At the third traffic light, turn right onto Long Wharf Drive to access the parking lot.

From New London

I-95 South (New York). Take Exit 46, Long Wharf. At the bottom of the exit ramp, turn left onto Sargent Drive. At the third traffic light, turn right onto Long Wharf Drive to access the parking lot.

From New York

I-95 North to Exit 46 (Long Wharf). At the bottom of the exit ramp, turn right. Follow Long Wharf Drive around and under the overpass. At the traffic light, go straight across Sargent Drive and turn right to access the parking lot.

NORTH HAVEN CAMPUS, 88 BASSETT ROAD, NORTH HAVEN, CT 06473

From New Haven and Points South

I-95 North 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.

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 on Blakeslee Avenue. At the end of the road, turn left on Bassett Road. The College is on the right, approximately 1/4 mile.

or

Route 15 South (Wilbur Cross/Merritt Parkway) to Exit 63. At the end of the ramp, turn left on Hartford Turnpike. At the next light, turn left on Route 22. Proceed to the fifth traffic light and turn left on Bassett Road. The College is on the right, approximately 1/4 mile.

