ESSEX COUNTY COLLEGE

CATALOG 2006–2008

ESSEX COUNTY COLLEGE

CATALOG 2006–2008

Main Campus
303 University Avenue
Newark, NJ 07102
(973) 877-3100

West Essex Campus
730 Bloomfield Avenue
West Caldwell, NJ 07006
(973) 877-6590

Notice: The policies, requirements, course offerings, schedules, activities, tuition and fees in this catalog are subject to change without notice at any time at the sole discretion of the administration. Such changes may be of any nature, including but not limited to the elimination of programs, classes, or activities; the relocation or modification of the content of any of the foregoing; and the cancellation of scheduled classes or other academic activities. Payment of tuition or attendance in any class shall constitute a student's acceptance of the administration's rights as set forth above.

This catalog and updates of information it contains can be found on the ECC web site: **www.essex.edu**

Essex County College is sponsored by the residents of Essex County through their Board of Chosen Freeholders. It is governed by a Board of Trustees with financial support derived from county, state, and federal sources.

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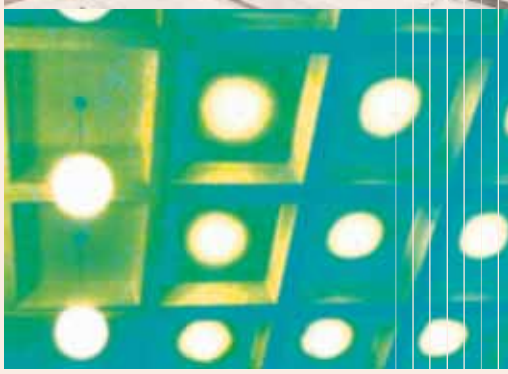


Accreditation and Licensure

Essex County College is accredited by the Middle States Association of Colleges and Schools. It is licensed by the New Jersey Commission on Higher Education to operate and to award associate degrees and certificates. All professional licensure programs offered by the College are accredited by their appropriate accrediting agencies.

Non Discrimination Policy Statement of Assurance

It is the policy of Essex County College not to discriminate on the basis of race, creed, color, national origin, age, martial status, affectional or sexual orientation, disability, gender, liability for military service, or any other category protected by applicable law. This policy applies to all terms, conditions, and privileges of student enrollment, staff employment, and vocational opportunities. Further, the College conforms to all federal and state statutes, orders, regulations, guidelines, and amendments concerning equal opportunities.

PRESIDENT'S MESSAGE

Welcome to Essex County College, a vibrant and ever-changing community college with campuses in the University Heights district of Newark and West Caldwell, NJ.

Whether you are an applicant or already a member of the ECC community, I trust this catalog will provide you with the answers you need. You may also want to visit our College in person and explore our website at **www.essex.edu.**

We have a lot to offer you at ECC. You can earn an associate degree for transfer to a four-year institution or to help you secure immediate employment. Our articulation agreements with neighboring four-year universities such as Rutgers, NJIT, Seton Hall, Kean, Montclair State, New Jersey City University, and William Paterson enable our graduates to continue their studies with full junior status; many gain significant scholarships at these institutions.

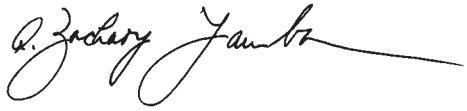
Education for us is about empowering our students to succeed in a rapidly changing global marketplace. We have more than 10,000 students enrolled in degree and certificate programs and thousands more in ESL courses, short-term training programs, adult literacy programs, corporate training programs, and personal enrichment courses. We are fully committed to the ideals of access, quality, and opportunity.

Strong support, personal attention, and careful guidance from faculty and staff are what you can expect at ECC. You are a person, not a number. Professors know you by your name, respect your needs, and care about your success.

Like its surrounding community, ECC is comprised of people of many backgrounds. More than 100 different nationalities are represented. Essex promotes an atmosphere in which distinct cultural viewpoints are accepted and encouraged.

ECC has made a difference to countless individuals. Our students score well above the state and national averages on state licensure exams and, upon graduation, transfer to outstanding four-year institutions throughout the country. Testimonials from our graduates attest to the fine quality of education you will receive. Best of all, ECC is affordable. We will help you gain the financial aid to which you are entitled.

Join us at Essex, and in the words of Henry David Thoreau, let us help you "go confidently in the direction of your dreams and live the life you have imagined."



MESSAGE

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ESSEX COUNTY
FOUNDED
1966

MISSION & VALUES STATEMENT

MISSION

Essex County College, an open access community college, serves the dynamic needs of diverse constituencies through comprehensive educational programs and services.

VALUES STATEMENT

Essex County College reaffirms the following principles, values, and beliefs:

Teaching and Learning: We affirm teaching and learning as our primary purpose. The College seeks to instill in students general and specialized knowledge, an ability to think critically, a commitment to civic responsibility, and an appreciation of complex, ethical, and scholarly traditions. We value academic freedom and support the open exchange of ideas and experiences.

Excellence and Accountability: We believe in creating a learning environment that fosters high expectations for achievement. The College is committed to rigorous academic standards, faculty excellence, and responsive support services that enable students to reach their full potential. We provide excellent programs that utilize technology, demonstrate innovation, and undergo evaluation to ensure consistent and outstanding performance.

Community: We support programs that enhance the economic and social development of Essex County. The College welcomes its role as a vital community resource and is dedicated to forging effective linkages with its many constituencies. We take pride in our outreach and continually strive to enhance life-long learning opportunities for personal and professional growth.

Diversity and Access: We embrace the rich diversity of our student population and our employees. We recognize the historical, intellectual, and artistic contributions of all people, and promote an atmosphere in which distinct cultural viewpoints are accepted and encouraged. We believe all people should have access to affordable, quality higher education that will prepare them to succeed in an ever-changing world.

Legacy: We honor our history and valued traditions. We also welcome progress and change. Building upon our past achievements, we eagerly embrace the future by pursuing innovations in teaching, administration, and student services.

MISSION

WHY ESSEX COUNTY COLLEGE?

ESSEX FACTS

ECC was established in 1966 as the public, two-year, community college of Essex County, admitted its first students in temporary quarters in downtown Newark in 1968, and moved to its current permanent site in the heart of the University Heights district of the city in 1976. Newark is New Jersey's largest city, 10 miles west of New York City.

- More than 25,000 people enroll each year in ECC's various degree and non-credit programs, including students from over 40 foreign countries.
- The curriculum features close to 70 majors and 564 courses as part of a wide range of transfer and career programs.
- ECC is adjacent to Rutgers University-Newark and the New Jersey Institute of Technology and within walking distance of the University of Medicine and Dentistry of New Jersey.
- ECC sends more transfer students to Rutgers-Newark, New Jersey Institute of Technology (NJIT), and Bloomfield College than any other two-year college in New Jersey.
- Tuition and fees for an ECC student are significantly lower than at four year colleges and universities in New Jersey.

OUTSTANDING FACILITIES

The 22-acre main campus in Newark features a multilevel megastructure covering three city blocks, a two-level multipurpose Physical Education Building/Child Development Center complex, the Center for Technology, and the Clara E. Dasher Student Center. Among the resources of the 502,000-square-foot megastructure are state-of-the-art laboratories, high tech classrooms with advanced teaching modalities, the Mary B. Burch Theater for the Performing Arts, and a newly renovated library equipped with online public access catalog stations, a computer lab offering instruction in information literacy, and extensive resource materials.

The West Essex campus of ECC in West Caldwell meets the education and training needs of people who live and work in the western part of Essex County. The facility includes state-of-the art computer labs, science labs, a library, a student center, and the same student support services that are offered at the main campus. Students attending this branch campus may complete degree requirements for associate degrees in the following majors: Business, Social Sciences, Liberal Arts, Education, and Criminal Justice. Ample on-site parking and access to public transportation make the campus an ideal location for students.

SMALL CLASSES

At ECC, most of the classes are small, usually with no more than 25 to 30 students, ensuring that students receive personal attention. Faculty not only have outstanding mastery of their subject areas but are also known for their personal commitment to their students.

WIDE RANGE OF TRANSFER AND CAREER PROGRAMS

At ECC, students can earn Associate in Arts (A.A.) and Associate in Science (A.S.) degrees for transfer to four-year colleges, or they can pursue Associate in Applied Science (A.A.S.) degrees and certificates to prepare for immediate employment. Some A.A.S. programs also transfer; academic advisors and our Transfer Center can provide additional information on the transfer process. Transfer/articulation agreements exist with many institutions; these ensure that all approved courses students take at ECC will transfer to the four-year colleges of their choice. Special joint and/or dual admission agreements have been implemented through which freshmen at ECC are simultaneously admitted to Rutgers University, New Jersey Institute of Technology, New Jersey City University, Kean University, or Thomas Edison State College.

CONTINUING EDUCATION OPPORTUNITIES

Community and continuing education programs include intensive basic skills training; multilingual outreach programs; customized corporate training programs; career advancement and personal enrichment courses; youth programs; seminars; workshops; and public forums on diverse topics of interest to local residents.

CONVENIENT SCHEDULES AND ACADEMIC SUPPORT

Working adults, recent high school graduates, and others can pursue full- or part-time study for educational or career advancement or personal enrichment. ECC offers convenient day, evening, and weekend classes and a comprehensive support system that includes counseling, tutoring, computer services, financial assistance, bilingual classes, and career planning. Developmental programs are offered to students who require remediation before taking college-level courses. The academic year is divided into

FACTS

two 15-week semesters (fall and spring) and two summer terms. The College has also introduced a new four-week intersession during Winter Break.

ATHLETICS AND OTHER EXTRACURRICULAR ACTIVITIES

ECC student-athletes excel in the classroom as well as in intercollegiate competition. Many ECC teams have been ranked nationally and routinely win district and regional championships. Several ECC athletes have become Olympians in their respective sports. Students may also choose to participate in a variety of student clubs and organizations, the Student Government Association, and the ECCO student newspaper.

AFRICANA INSTITUTE

The Africana Institute opened in May 2001 at the Main Campus and serves as a research, education, and communication center for the study of the history and life of people of African, African-American, and Caribbean descent. Its focus is on the historical and contemporary experiences of Black people. The institute's educational and cultural programs and resources are designed to raise the awareness of students and the greater community about the African diaspora, and to increase and improve intra and interracial dialogue and relations.

SAMPLE OF INSTITUTIONS TO WHICH RECENT ECC GRADUATES HAVE TRANSFERRED TO PURSUE BACCALAUREATE AND GRADUATE STUDIES:

Auburn University
Bard College
Bethune-Cookman College
Bloomfield College
Brown University
Caldwell College
Carnegie-Mellon University
Centenary College
College of New Jersey
College of Saint Elizabeth
City University of New York
Clark Atlanta University
Columbia University
Cornell University
Drew University
Drexel University
East Stroudsburg University
Fairleigh Dickinson University
Felician College
George Washington University
Georgia Tech University
Georgian Court University
Hofstra University
Howard University
Hunter College
Johns Hopkins University
John Jay College of Criminal Justice
Kean University
Kent State University
Long Island University
Louisiana State University
Massachusetts Institute of Technology
Montclair State University
New Jersey City University
New Jersey Institute of Technology
New York University
Norfolk State University
Ohio State University
Pace University
Parsons – New School
Penn State University
Pratt Institute
Ramapo College
Rider University
Rowan University
Rutgers University
Saint Peter's College
Seton Hall University
Smith College
Springfield College
Stevens Institute of Technology
Temple University
Thomas Edison State College
University of Medicine and Dentistry of New Jersey
University of Nevada at Las Vegas
University of North Carolina at Chapel Hill
University of Pennsylvania
University of Pittsburgh
University of Texas at Austin
University of Virginia
Wesleyan College
Westminster Choir College at Rider University
William Paterson University
Yale University

COMPELLING TESTIMONIALS

ECC students have a sense of belonging and successful alumni have made themselves a part of ECC's extended family.

"I am thrilled to have been a part of this wonderful institution. ECC opened so many doors for me, I would not be where I am today without the experiences I had here. ECC enabled me to become a well balanced, results-driven student. I was particularly impressed by the diversity, the educational and internship opportunities offered to students, the cultivation of a free exchange of ideas, and the services available to international students."

CLAUDIA ORDONEZ (2005 VALEDICTORIAN) graduated with an A.S. in Business Administration (4.0 GPA), and had the distinction of being the second student in ECC history to be recognized on the All-USA Community & Junior College Academic First Team. Claudia was president of ECC's chapter of the Phi Theta Kappa honor society and is now an International Management major at the Lubin School of Business at Pace University. She was recently awarded a Scholarship of Excellence from Goldman Sachs where she spent the summer of 2006 as an analyst intern. Now on track to earn her bachelor's degree in 2007, Claudia next plans to pursue graduate study in international business.

The college experience should be more than just about books and acquiring degrees. It should be a rewarding learning experience … in which students can find guidance, inspiration, and direction to help maximize their creative potential. Fortunately, at ECC, I found such an experience."

MIGDALIA ROMAN (CLASS OF 2002 SALUTATORIAN) was a 36-year old working mother who continued to commute to ECC when she moved 90 miles away to Sussex County. After graduating with highest honors, she earned a full scholarship to continue her studies at William Paterson University from which she also graduated Summa Cum Laude. Migdalia went on to earn her teacher certification and currently teaches Spanish at Delsea Regional High School in Frankville, New Jersey. She is now completing her master's degree in Educational Psychology from New Jersey City University and plans to earn a doctorate in this field.

ECC has shaped me personally and professionally … and opened doors for me to pursue my studies in a male-dominated industry (Information Systems and Telecommunications). My goal is to be a part of the U.S. government's initiative to decrease health costs by implementing information technology solutions."

BOSEDE OLAOGUN (CLASS OF 2002) completed her baccalaureate with honors from Johns Hopkins University in May 2005 and is scheduled to earn a master's in Information Systems and Telecommunications in August 2006. Currently employed by the Social Security Administration as an IT Specialist, Bosede next plans to attend New York Institute of Technology to pursue a master's in Business Administration.

TESTIMONIALS

"Coming to Essex was crucial to my development as both a student and a person. I was returning to school after a few years and ECC provided the foundation I needed to grow. The faculty gave me guidance because I was originally unsure of the academic direction to take. Campus life was also great and I was encouraged to get involved. ECC was definitely the right place for me to start my college career."

JEROME WINSTON POWELL (CLASS OF 1994) is currently a corporate attorney specializing in forensic accounting. After gaining an associate degree in Liberal Arts from ECC, he moved on to New York University where he received his undergraduate degree as a double major in English and philosophy. He earned his law degree from the University of North Carolina and has been practicing law in New York City ever since.

"I particularly enjoyed the cultural diaspora that existed at ECC. The Essex experience made assimilation easy for me. I found the professors to be highly insightful in their areas of specialty and easily accessible for help."

GAIL ANN-ALLEN (Class of 1994) was a Biology-Pre Med major at ECC. She graduated with a cumulative GPA of 4.0, not only from Essex but also from Rutgers University. She graduated from the University of Medicine and Dentistry of New Jersey Dental School in May 2000 and is now a certified orthodontist.

All of my achievements were because I started here. ECC provided the fundamental tools that allowed me to progress successfully in my career today. Our program was rigorous and faculty were very demanding, but also very caring. Many people and patients I come across are grateful to ECC for educating at a compassionate level. I am grateful as well."

OSCAR POZZOLI (CLASS OF 1993) graduated with honors from ECC's Physical Therapist Assistant program. He went on to become a certified PTA at the Rehabilitation Unit of Christ Hospital in Jersey City where he worked largely with diabetic Latinos and African-Americans and developed an interest in creating proper footwear to prevent the risk of amputations. He is currently a certified pedorthist (specialization in diabetic foot, footwear anatomy, and gait analysis) and also a certified clinical instructor in this field. He and his wife, a physical therapist, operate physical therapy clinics – Omni Therapy Centers – in Bloomfield and Verona. He has also worked as an International Market Manager of Aetrex Worldwide Corp., specializing in orthopedic footwear.

Educationally and socially, ECC was good for me. The faculty provided a strong foundation. Classes were organized and well-structured. Professors offered me one-on-one attention, and tutors provided extra help. The Biology professors also introduced me to the Robert Wood Johnson Medical School Summer Biomedical Careers Program for Minority Students which enabled me to have a smooth transition into medical school."

LISA PRICE (CLASS OF 1993) received her M.D. from UMDNJ and completed her residency in Obstetrics and Gynecology at Meimonides Medical Center in Brooklyn. She is currently in private practice in Atlanta and is also affiliated with Emory University.

OVERVIEW

OVERVIEW OF ACADEMIC PROGRAMS

ECC offers a wide range of associate degree and certificate programs through the following academic divisions and departments:

EMPLOYERS OF ECC GRADUATES

Recent survey findings indicate that many ECC graduates found professional positions in New Jersey with such employers as: Alliance for Integrated Health Care, Cathedral Healthcare, Clara Maass Medical Center, Comus International, East Orange Board of Education, Essex County Superior Court, Irvington Board of Education, Kessler Institute, Newark Board of Education, NJ Transit Corporation, Port Authority of NY and NJ, Prudential Financial, PSE&G, St. Michael's Medical Center, University of Medicine and Dentistry of NJ, and Verizon Construction.

ASSOCIATE IN ARTS (A.A.) and the **ASSOCIATE IN SCIENCE (A.S.)** degree programs are specifically designed to prepare students for transfer to four-year colleges and universities.

ASSOCIATE IN APPLIED SCIENCE (A.A.S.) degree programs are designed to prepare students for immediate employment upon program completion. Students in some majors may be able to transfer most or all of their credits to baccalaureate programs.

The **CERTIFICATE PROGRAMS** are designed to provide employment skills in one year or less of full-time study. They enhance or supplement existing skills or offer preparation for a new career path. The certificate programs include those that are offered through the College's Division of Community and Continuing Education.

The **OFFICE OF COOPERATIVE EDUCATION** offers experiential learning opportunities for students in degree and certificate programs. Students test career choices and enhance employment skills by participating in work experiences that are related to their majors or career goals. To learn more about cooperative education opportunities, refer to the Academic Support Services section of this catalog.

The following lists the programs available through the various divisions. For detailed information on specific degree and certificate programs, refer to the Academic Programs Index in the Degree and Certificate Programs section of this catalog, which will direct you to the relevant pages.

GREAT CAREERS BEGIN AT ESSEX COUNTY COLLEGE

DIVISION OF ALLIED HEALTH

Location: Level II, Blue Area
Acting Chair: Jill C. Stein
Coordinators
Physical Therapist Assistant: Christine Stutz-Doyle
Radiography: Ronald Kopec
Vision Care Technology: Richard Palumbo
Faculty: Charles Harrison, Herta Georgia-Pace
Staff: Barbara Fogler
Counselor: Kathlyn Battle, Luz Class, Linda Sallee

The Division offers A.S. degree programs designed to prepare students to transfer to four-year institutions, and A.A.S. and certificate programs designed to prepare students for health careers immediately upon graduation. The faculty are licensed to practice in their respective fields and have diverse academic and professional backgrounds. Most hold advanced practice credentials in their professional field. The programs utilize state-of-the-art on-campus laboratories to facilitate student learning.
Choose from the following degree and certificate programs:

- **Dental Assisting (Certificate)**
- **Dental Hygiene (A.A.S.)**
- **Health Science (A.S.)**
- **Physical Therapist Assistant (A.A.S.)**
- **Radiography (A.A.S.)**
- **Respiratory Care (A.S.)**
- **Vision Care Technology (A.A.S.)**

All applicants to Allied Health programs must meet special admission requirements.

While waiting for admission, students are urged to begin taking core curriculum requirements. Contact the divisional counselor or faculty advisor for details.

Admission to programs in this division is competitive. Completion of the admission requirements does not guarantee program admission. Refer to the Degree and Certificate Programs section of this catalog for information on admission requirements, application deadline, and application procedures for the program of your choice. Also contact the divisional counselor, faculty advisor, and/or Enrollment Services for details.

An individual who has charges pending or has ever been convicted of a felony or misdemeanor and/or has been found guilty of professional misconduct or negligence may or may not be eligible to be licensed as an allied health professional. These matters should be cleared with the respective licensing boards before applying for admission to an allied health program.

GREAT

DEPARTMENT OF BILINGUAL STUDIES

Location: Level I, Red Area
Chairperson: Angel Millán
Faculty: Mila Bruan, John Hills, Maria Ibanez-Polixa, Evelyn Marquéz, Michael Pekarofski, Milena Rubinstein, Luis J. Salgado, and Nicola Wills-Espinosa
Counselor: Laura Cruz

The Department offers an A.A. degree program in Spanish, designed to prepare students for transfer to four-year institutions, and non-degree programs in English as a Second Language (ESL). The Department also offers courses in world languages. To supplement the classroom experience, the Bilingual Studies faculty participate in, develop, and support cultural events, organizations, and activities designed to promote feelings of positive cultural awareness among students and the bilingual communities of Essex County. Counseling, tutoring, cooperative education, computer-assisted language learning, and other support services are also available to students.

Degree Program
• **Liberal Arts: Spanish Language Option (A.A.)**

ESL programs
The following are designed for students whose first language is not English:
• English as a Second Language (ESL) Academic Program
• Accelerated English as a Second Language
• ESL Intensive Experience

English as a Second Language (ESL) Academic Program
Students work on improving their proficiency in English through a series of three courses:

ESL 095	ESL Reading & Writing I	6 credits
ESL 103/104	ESL Reading & Writing II	6 credits
ESL 105/106	ESL Reading & Writing III	6 credits

In addition to the three ESL academic courses, the Department offers supplemental courses which are designed to augment the academic English language skills development process.

ESL 080	Basic Academic Grammar	4.5 credits
ESL 100	Form and Function of English	3 credits
ENG 106	American English Phonetics	3 credits

Students may register for a limited number of additional courses taught in Spanish or English while they are taking ESL courses. The idea is to give students more opportunities to improve their proficiency in English while fulfilling college requirements and electives.

The ESL program is only available through placement by the Department of Bilingual Studies.

Accelerated English as a Second Language
This is an intensive 15-credit, one-semester immersion program for students who possess a high degree of literacy in their primary language as well as a high or intermediate level of proficiency in English. It builds on skills students already possess in reading, writing, speaking, and listening.

Program Requirements: 15 credits

ESL 108	Accelerated ESL – Writing	3 credits
ESL 109	Accelerated ESL – Reading	3 credits
ESL 110	Accelerated ESL – Speaking	3 credits
ESL 111	Accelerated ESL – Listening	3 credits
ESL 112	American Culture and Diversity	3 credits

In many cases, students in this program are professionals or college graduates seeking to improve their English as rapidly as possible. A variety of cultural and educational activities serve to enhance and reinforce the learning experience. The goal is to prepare students to enter college-level courses directly or to successfully compete in the job market. This program is only available through placement by the Department of Bilingual Studies.

ESL – Intensive Experience
This program is intended for students who demonstrate some literacy in their first language and some prior exposure to English. The program meets 15 hours a week and all classes are conducted in English. Lab work and participation in off-campus activities are required.
Program Requirements: 15 credits

ESL 073	ESL Inten. Exp. – Culture	3 credits
ESL 074	ESL Inten. Exp. – Listening & Comp.	3 credits
ESL 075	ESL Inten. Exp. – Speaking	3 credits
ESL 076	ESL Inten. Exp. – Reading	3 credits
ESL 077	ESL Inten. Exp. – Writing	3 credits

The program develops language skills as well as academic and study skills. Topics and themes related to American culture and cultural diversity are explored. The program is only available through placement by the Department of Bilingual Studies.

World language courses
Through courses in Spanish, French, Arabic and Italian, native speakers of English are able to fulfill foreign language requirements, earn transfer credits, and foster their personal growth and development. While learning a foreign language, students also have the opportunity to develop cultural awareness and sensitivity to meet the demands of an increasingly global and culturally diverse society.

CAREER

DIVISION OF BIOLOGY AND CHEMISTRY

Location: Level II, Blue Area
Chairperson: Jill C. Stein
Faculty: Ezdehar Abu-Hatab, Martin Asobayire, Bagher Bagheri, Jose Chestnut, Brendan M. Doyle, Pamela Doyle, Frank Duroy, David Eaton, Michael E. Frank, Byron M. Johnson, Rudolph B. Jones, Eunice Kamunge, John Kozic, Jeffrey N. Lee, Donald J. McDermott, Lawrence R. Pitts, Norman Scherzer, Natalie Toran, Lynn Wilson, Anthony Zuppardi
Laboratory Assistants: Alberta Marbley, Kelli-Kapri Tate
Counselors: Kathlyn Battle, Luz Class, Linda Sallee

The Division offers A.S. degree programs designed to prepare students to transfer to four-year institutions, and A.A.S. degree programs designed to prepare students for employment immediately upon graduation. The faculty hold advanced degrees in biology and chemistry and are experienced teachers. In addition, most faculty have extensive research experience in their fields. The programs utilize state-of-the-art biology and chemistry laboratories and students have access to multimedia computer laboratories with Internet access.

Choose from the following degree programs:

- **Biology, Pre-Medicine (A.S.)**
- **Biotechnology (A.A.S.)**
- **Biotechnology (Certificate)**
- **Chemical Technology (A.A.S.)**
- **Chemical Technology (Certificate)**
- **Chemistry (A.S.)**
- **Environmental Science (A.A.S.)**
- **General Science (A.S.)**

DIVISION OF BUSINESS

Location: Level III, Green Area
Chairperson: Michael C. King
Faculty: Matilda Abavana, Harry V. Bernstein, Richard M. Downs, Shelby Hawkins, Nathan Himelstein, Daxay Patel, Rachel Pernia, Joseph C. Santora, Gerald Savage, Doris Tori
Counselor: Arthur Henoch

The Division offers A.S. degree programs designed to prepare students to transfer to four-year institutions, and A.A.S. and certificate programs designed to prepare students for business careers immediately upon graduation or to develop technical skills in specialized areas. The faculty have diverse academic and professional backgrounds including years of practical experience in the business field. Cooperative education credits are offered to students in a number of program areas to develop real world experience and to enhance employability skills.

Choose from the following degree and certificate programs:

- **Accounting (A.A.S.)**
- **Accounting (A.S.)**
- **Business Administration (A.A.S.)**
- **Business Administration (A.S.)**
- **Business Administration: Business Administration and Microcomputer Applications Option (A.A.S.)**
- **Business Administration: Financial Services Option (A.A.S.)**
- **Business Administration: Hospitality Management Option (A.A.S.)**
- **Business Administration: Office Systems Technology and Management Option (A.A.S.)**
- **Business Career Development (Certificate)**
- **Information Systems Office Operations (Certificate)**
- **Internet – Web Page Design Specialist (Certificate)**
- **Microcomputer Systems Applications (A.A.S.)**
- **Office Assistant Program (Certificate)**
- **Retail Sales Specialist Program (Certificate)**
- **Word Processing Program (Certificate)**

DIVISION OF ENGINEERING TECHNOLOGIES AND COMPUTER SCIENCES

Location: Center for Technology
Chairperson: Jianping Yue
Faculty: Theophilus Acquaye, Hossein Assadipour, Mark Galit, Judy Glina, John Gribbin, Mustapha Sandi, Karen Scuorzo, Alvin Williams, Ned M. Wilson, Weiping Zhang
Laboratory Technician: Stacy Outerbridge
Counselors: Kathlyn Battle, Luz Class, Linda Sallee

The Division offers A.S. degree programs designed to prepare students to transfer to four-year institutions to pursue advanced degrees in science and technology, and A.A.S. and certificate programs designed to prepare students to enter the workforce immediately upon graduation. The Center for Technology has 30,000 square feet of classrooms, laboratories, and office space on two levels. It houses the existing programs and has space for new programs in emerging technologies. The courses utilize cutting-edge equipment in spacious laboratories designed for training the next generation of engineers, technicians, and scientists. The faculty have diverse backgrounds in the applied sciences in both educational and industrial settings. Most have earned doctoral or professional engineering licenses in their field of specialty.

Choose from the following degree and certificate programs:

- **Applied Computer Science (A.S.)**
- **Architectural Technology (A.A.S.)**
- **Civil Construction Engineering Technology (A.A.S.)**
- **Civil Construction Engineering Technology: Land Surveying Option (A.A.S.)**
- **Computer-Aided Design Technology (Certificate)**
- **Computer Information Systems (A.S.)**
- **Computer Science (A.S.)**
- **Electronic Engineering Technology (A.A.S.)**
- **Energy Utility Technology (A.A.S.)**
- **Engineering (A.S.)**
- **Geographic Information Systems (Certificate)**
- **Internetworking Technology (Certificate)**
- **Manufacturing Engineering Technology (A.A.S.)**
- **Manufacturing Engineering Technology: Mechanical Engineering Technology Option (A.A.S.)**
- **Network Technology (Certificate)**
- **Technical Studies (A.A.S.)**

DIVISION OF HUMANITIES

Location: Level I, Red Area
Chairperson: Vacant
Coordinators
Art: Barbara Pogue
Communications: Curtis Green
English: William MacPherson
History: Vacant
Music: Richard Alston
Faculty: Richard Alston, Patricia A. Bartinique, Charles Bateman, David A. Berry, Richard Bogart, James H. Campbell, Niki Chukunta, Jeffrey Curtis, Enid Friedman, William Golden, Curtis Green, Ogretta Hawkins, Kevin Hayes, Rita Higgins, Nessie Hill, Carol Kushner, Earle Laing, Paulette Longmore, Isa Tavares Maack, William MacPherson, Michael Nash, Alfred G. Olivi, Barbara Pogue, Elizabeth Porcelli, Herbert C. Schlager, Robert C. Spellman, Derrick Williams
Counselors: Daphne Benyard, James F. Johnson

The Division encompasses art, cinema, communications, dance, drama, English composition, English literature, history, music, new media technology, philosophy, and speech. The Division offers A.A. and A.S. degree programs transferable to four-year institutions; an A.A.S. and a certificate program in preparation for immediate employment upon graduation; general education courses in art, English, history, and music required for all degree programs; and also developmental courses in reading and writing to assist students who are not yet fully prepared for college-level courses.

Choose from the following degree and certificate programs:

- **Art (A.A.)**
- **Digital Media and Electronic Publishing (Certificate)**
- **Liberal Arts (A.A.)**
- **Liberal Arts: Communications Option (A.A.)**
- **Liberal Arts: Journalism Option (A.A.)**
- **Music (A.S.)**
- **New Media Technology (A.A.S.)**

DIVISION OF MATHEMATICS AND PHYSICS

Location: Level II, Blue Area
Chairperson: Carlos de la Torre
Faculty: Norbert Aminzia, Shohreh Andresky, Ronald Bannon, Mark Galit, Susan Gaulden, Helen Kuruc, Nadezhda Lvov, Madan L. Maheshwari, Mingyon McCall, Naser Moheb, John Pace, Leonard W. Parrino, Kathleen Powell, Soraida Romero, Maria Cecilia Rozak, August Ruggiero, Barbara Satterwhite, Martin Weissman, Ram N. Yadav, Donald P. Yee, Raymond Zenere
Laboratory Assistant: George Skea
Counselors: Kathlyn Battle, Linda Sallee

The Division offers an A.S. degree program in mathematics, designed to prepare students to transfer to four-year institutions to pursue advanced degrees in math or physics; general education courses in math required for all degree programs; and also developmental math courses which, upon completion, enable students to perform successfully in math and science courses required in their major area of study. Faculty of the Division are experienced educators with extensive scientific and mathematical backgrounds, who are well qualified to impart the knowledge necessary to prepare students for a wide variety of careers. Most mathematics and physics courses are sequential in nature and so care should be taken to register for courses in their proper order and without long time delay between courses. The College offers tutoring in mathematics and physics at each of its campuses.

Degree Program:
- **Mathematics (A.S.)**

DEPARTMENT OF NURSING

Location: Level II, Blue Area
Acting Chairperson: Janet Czermak
Faculty: Prisca Anuforo, Marlene Dey, Gail Gage, Vickie Grosso, Mariellen Hess-Christian, Barbara Kelly, Mary Lewis, Patricia Lowry, Lola Oyedele, Amini Simon, Majuvy Sulse
Counselors: Kathlyn Battle, Luz Class, Linda Salle

The Department offers an A.A.S. degree program designed to prepare students for entry level positions in hospitals and other health care facilities immediately upon graduation. Upon completion of the program, students are eligible to take the certification exam (NCLEX) to be registered nurses. The Department also offers the opportunity for Licensed Practical Nurses (LPNs) to gain credit for previous LPN education and license toward the completion of an A.A.S. degree in Nursing. The Nursing program utilizes state-of-the-art on-campus laboratories, including a nursing simulation laboratory and a multimedia computer laboratory, to facilitate student learning. Many colleges have upper division nursing programs that allow associate degree graduates to transfer most or all of their credits toward a Bachelor of Science degree program in nursing (B.S.N.). Currently Essex County College has such articulation agreements with New York University, New Jersey City University, St. Peter's College, Felician College, Kean University, Rutgers University, Seton Hall University, and William Paterson University.

Choose from the following programs:
- **LPN Certificate**
- **Nursing (A.A.S.)**
- **Nursing: LPN Articulation Option (A.A.S.)**

All nursing applicants are admitted to the college as General Science (0603 code) students with a major in nursing and will complete a prescribed program of study. Students planning to enter the program directly from high school should contact the Nursing Department for information on admission criteria. Admission to the nursing program is competitive. Specific admissions criteria must be met to qualify. Completion of the admission requirements does not guarantee program admission. Refer to the Nursing programs detailed in the Degree and Certificate Programs section of this catalog for information on admission standards, application deadlines, and application procedures. Also contact the departmental counselor, faculty advisor, and/or Enrollment Services for details.

An individual who has charges pending or has ever been convicted of a felony or misdemeanor and/or has been found guilty of professional misconduct or negligence may not be eligible to be licensed as an RN. These matters should be cleared with the New Jersey Board of Nursing before applying to the Nursing program.

DIVISION OF SOCIAL SCIENCES

Location: Level III, Yellow Area
Chairperson: Mamie Bridgeforth
Faculty: Linda Carter, Patrice Davis, Gerald Freedman, Frederic Halper, Linda Harvest, Bahir Kamil, Peter Myers, Leonid Polyakov, Charles Reid, Margarita Roig, Paul Tandoh, Arzelia Said, Martin Schulman

The Division offers A.S. and A.A. degree programs designed to prepare students to transfer to four-year institutions, and A.A.S. degree and certificate programs designed to prepare students for careers in the social sciences immediately upon graduation. The programs are distributed across eight disciplines – anthropology, criminal justice, education, health, physical education, political science, psychology, and sociology. The individual disciplines that comprise the Social Sciences are often taught independently, although these disciplines recognize that they owe much to the others. For students majoring in Human Services and Education, there is a mandatory internship experience required as part of the curriculum. Students in select programs may earn cooperative education credits for work experience related to academic or career interests. Students who wish to take specific career courses for employment advancement are encouraged to meet with the chairperson of the Division or coordinators of respective programs for assistance in selecting courses that will meet their special needs. The faculty hold advanced degrees, are professionally active, and are also involved in research and publication. They serve on numerous boards and committees, and many are leaders in human service fields, frequently organizing training events for agency networks in the region.

Choose from the following programs:

- **Childhood Development Associate Certification Program**
- **Criminal Justice (A.S.)**
- **Education (A.A.)**
- **Human and Social Services (A.A.S.) (offering specializations in psychology, alcohol and substance abuse, and social work)**
- **Human and Social Services (Certificate)**
- **Legal Assistant Studies (Paralegal) - Certificate**
- **Legal Assistant Studies (A.S.)**
- **Legal Nurse Program (Certificate)**
- **Legal Specialist (Secretarial) - Certificate**
- **Physical Education (A.S.)**
- **Social Science (A.S.)**

COMMUNITY AND CONTINUING EDUCATION

Locations: Main Campus and the West Essex Campus
Dean: Charles G. Lovallo
Associate Dean: Elvira Vieira
Associate Dean: Keith Kirkland
Director of Academic Programs, West Essex Campus: Helen Kuruc

The Division of Community and Continuing Education offers a wide range of non-credit and credit courses and programs, including certificate programs to enhance the professional and vocational needs of area residents. Four such certificate programs are those pertaining to the New Jersey Uniform Construction Code. The regulations for the Uniform Construction Code, adopted by the New Jersey Department of Community Affairs, require candidates for licensure to complete specified educational programs to prepare them to administer and interpret the code's standards. ECC's West Essex Campus in West Caldwell offers four educational programs in Uniform Construction Code that meet the inspector licensing requirements regulated by the New Jersey State Uniform Construction Code.

Choose from the following programs:

- **Building Code Technology (Certificate)**
- **Electrical Code Technology (Certificate)**
- **Fire Code Technology (Certificate)**
- **Plumbing Code Technology (Certificate)**

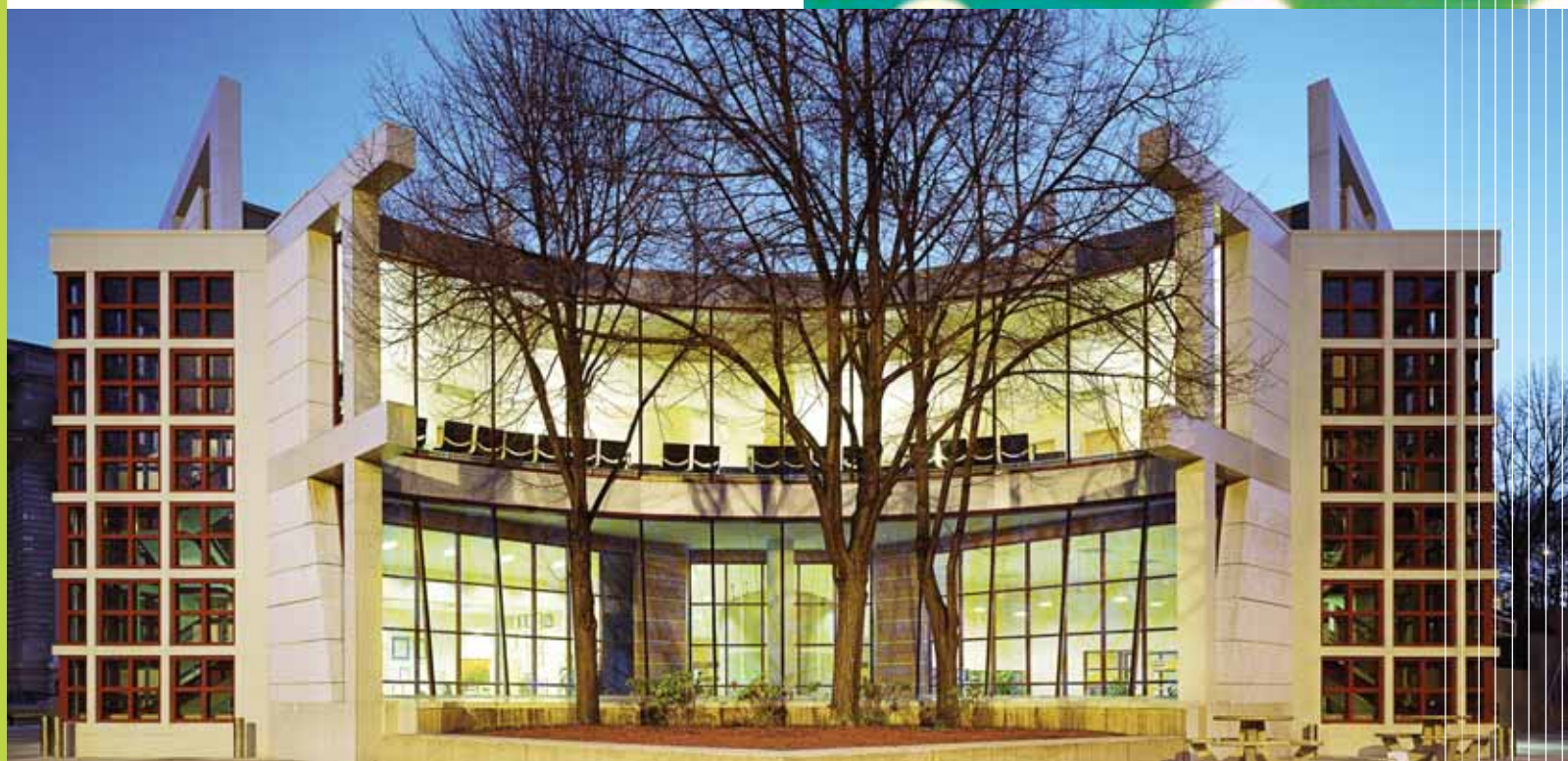
JOINT ADMISSION AND TRANSFER AGREEMENTS

Essex County College has entered into joint and/or dual admission agreements with Rutgers, the State University, New Jersey Institute of Technology (NJIT), New Jersey City University, Kean University, Montclair State University, St. Peter's College, and Thomas Edison State College. These admission agreements provide guaranteed admission with junior status to qualified students. To gain the full benefit of these agreements, students must graduate from their ECC degree program and continue their major course of study at the four-year institution. Students are urged to consult with ECC's transfer/articulation coordinator in the Transfer Center to review specific requirements.

ECC also has joint admission agreements with the University of Medicine and Dentistry of New Jersey in selected allied health disciplines under which qualified students enroll at UMDNJ during the course of their associate degree program. Transfer/articulation agreements with the colleges listed below allow students who complete their associate degrees to transfer with full junior standing:

Bloomfield College
Centenary College
Clark Atlanta University
Drexel University
Fairleigh Dickinson University
Felician College
Georgian Court University
John Jay College of Criminal Justice
Kean University
Mercy College
Montclair State University
New Jersey City University
New Jersey Institute of Technology
New York University
Rutgers, the State University
Seton Hall University
St. Peter's College
Thomas Edison State College
William Paterson University

Joint admission and transfer agreements are frequently updated. Students should consult with the transfer/articulation coordinator in the Transfer Center and/or appropriate faculty advisors.



ACADEMIC CALENDAR 2006–2007

FALL 2006

September

4	Monday	Labor Day – College Closed
5	Tuesday	First Day of Fall Classes
22	Friday	First Day of Late Start Courses

October

9	Monday	Columbus Day – No Classes

November

23–24	Thurs–Fri	Thanksgiving Holiday – College Closed
25	Saturday	No Classes

December

3	Friday	Midterm Grades Due to the Registrar
16	Saturday	Last Day of Late Start Courses
18	Monday	Last Day of Classes
20	Wednesday	Grades Due to the Registrar
19–29	Tues–Fri	Winter Break

WINTER INTERSESSION 2006 (During Winter Break)

Nov.20–Dec.19		Application and Registration In-person

December

26	Tuesday	First Day of Winter Intersession 2006 Classes

January

6	Saturday	Last Day of Classes
8	Monday	Grades Due to the Registrar

SPRING 2007

January

8	Monday	First Day of Spring Classes
15	Monday	Martin Luther King Jr. Birthday – College Closed
26	Friday	First Day of Late Start Courses

February

19	Monday	President's Day – College Closed

March

2	Friday	Midterm Grades Due to the Registrar

April

6–7	Fri–Sat	Spring Holiday – No Classes
21	Saturday	Last Day of Late Start Courses
23	Monday	Last Day of Classes
25	Wednesday	Grades Due to the Registrar

SUMMER I 2007

May

2	Wednesday	First Day of Summer I Classes
28	Monday	Memorial Day – College Closed

June

3	Sunday	Commencement
20	Wednesday	Last Day of Classes
21	Thursday	Grades Due to the Registrar
25–30	Mon–Sat	Summer Recess-No Classes

SUMMER II 2007

July

4	Wednesday	Independence Day – College Closed
9	Monday	First Day of Summer II Classes

August

16	Thursday	Last Day of Classes
20	Monday	Grades Due to the Registrar

ACADEMIC CALENDAR 2007–2008

FALL 2007

September

3	Monday	Labor Day – College Closed
4	Tuesday	First Day of Fall Classes
21	Friday	First Day of Late Start Courses

October

8	Monday	Columbus Day – No Classes

November

2	Friday	Midterm Grades Due to the Registrar
22–23	Thurs-Fri	Thanksgiving Holiday – College Closed
24	Saturday	No Classes

December

15	Saturday	Last Day for Late Start Courses
17	Monday	Last Day of Classes
18–31	Tues-Fri	Winter Break
19	Wednesday	Grades Due to the Registrar

WINTER INTERSESSION 2007 (During Winter Break)

Nov.19–Dec.17		Application and Registration In-person

December

26	Wednesday	First Day of Winter Intersession 2007 Classes

January

6	Sunday	Last Day of Classes
7	Monday	Grades Due to the Registrar

SPRING 2008

January

7	Monday	First Day of Spring Classes
21	Monday	Martin Luther King Jr. Birthday – College Closed
25	Friday	First Day of Late Start Courses

February

18	Monday	President's Day – College Closed

March

3	Monday	Midterm Grades Due to the Registrar
21–22	Fri–Sat	Spring Holiday – No Classes

April

19	Saturday	Last Day of Late Start Courses
21	Monday	Last Day of Classes
23	Wednesday	Grades Due to the Registrar
30	Wednesday	First Day of Summer I Classes

SUMMER I 2008

May

26	Monday	Memorial Day – College Closed

June

1	Sunday	Commencement
18	Wednesday	Last Day of Classes
20	Friday	Grades Due to the Registrar
23–28	Mon–Sat	Summer Recess – No Classes

SUMMER II 2008

July

4	Friday	Independence Day – College Closed
7	Monday	First Day of Summer II Classes

August

14	Thursday	Last Day of Classes
18	Monday	Grades Due to the Registrar

For more detailed 2006-2008 academic calendars, see www.essex.edu/academic/calendars

Admission

Qualifications for Admission

Essex County College admits any person who is at least 18 years of age or who has earned a high school diploma or General Education Development (GED) certificate. This open admissions policy does not apply to persons seeking degrees or certificates from the Nursing and Allied Health programs.

You can obtain an application by calling the main campus at (973) 877-1941, or the West Essex Campus at (973) 877-6590. Alternately, you can secure an application online at webservices.essex.edu

It is recommended, though not required, that students enrolling at Essex County College have taken the following course work during high school:

College-preparatory English	minimum 4 years
College-preparatory science	minimum 3 years
College-preparatory mathematics	minimum 3 years
Foreign language	minimum 2 years
Social studies	minimum 2 years

Application Procedure

Step 1
Complete the Essex County College application and submit it with the non-refundable $25.00 fee. All applicants should submit a completed application by August 1 for the Fall semester, December 1 for the Spring semester, April 1 for Summer I, and June 1 for Summer II. Please note that an application is valid for one year (4 terms). You will be required to re-apply after one year if you do not register during this time.

Step 2
Request that your high school and prior colleges send official transcripts to the Enrollment Services Express Center at the main campus or Enrollment Services at the West Essex Campus. If you earned a GED, submit official documentation to the Enrollment Services Express Center.

Step 3
All new students seeking a degree or certificate are required to complete a pre-enrollment placement test given by the Enrollment Services Express Center. This college placement test is used to determine placement in college-level or developmental courses. You will receive an appointment to take the test with your acceptance letter.

Exemptions from Placement Testing

a. If you have already transferred college-level credits in English composition and mathematics, with grades of "C" or better.
b. If you have SAT scores of 500 or higher on both the verbal and mathematics sections, or ACT scores of 21 or higher in English/Reading and 21 or higher in Math. (SAT scores and ACT scores are good for five years from the original test date).
c. If you took a placement test at another New Jersey college in the last three years; the scores should be sent to the Enrollment Services Express Center for evaluation. The test must have been taken within the last three years.
d. If you have already earned an associate or higher degree from a U.S. college; appropriate documentation must be provided to the Enrollment Services Express Center.

Step 4
If you are applying for financial aid, you need to complete the Free Application for Federal Student Aid (FAFSA). For assistance with filing the FAFSA on the Internet, students can visit the Assessment Lab located in Room 4191 at the main campus or the Enrollment Services Department at the West Essex Campus. Or you can log on to the website www.fafsa.ed.gov. Applicants for financial aid must have a high school diploma, GED, or demonstrate the ability to benefit from programs offered at Essex County College. For more information, contact the Financial Aid Office at (973) 877-3200.

Step 5
All full-time students are required to provide proof of immunization for measles, mumps, and rubella. Your official immunization record from your high school or health care provider should be mailed or faxed to the Health Services Office at (973) 877-3127. Be sure to include your name and Social Security number on all documents.

Step 6
Following placement testing, you will receive an appointment to attend an orientation/advisement session. You will meet with your advisor to develop a schedule and register for classes.

Transfer Student Admissions

Students who have completed courses at another accredited post-secondary institution and want to transfer credits to Essex County College must submit official transcripts from the other institution(s), com-

pleted application, a $25.00 non-refundable fee, and an official high school transcript or equivalent. **Please note that these documents become the property of ECC and will not be released to a third party or to the student.** Any transfer student who has not taken the required placement examination in the last three years and does not transfer credits for college level mathematics and English composition must take the placement examination. Credit may be granted provided that the course is comparable to a course required in the applicant's chosen major field of study. A minimum grade of "C" is required for a course to be transferable.

As transcripts are received, credits are evaluated on a course by course basis. Students will be notified in writing as to the specific courses and credits that were accepted. To graduate, transfer students must complete a minimum of 30 credits toward their degree and at least half of their major course requirements at Essex County College.

Readmission

A student previously enrolled at Essex County College who has not been in attendance for three or more years must apply for readmission. The student must complete and return an application for readmission to the Enrollment Services Express Center at the main campus or Enrollment Services at the West Essex Campus. A $25.00 non-refundable readmission fee is required. The student may be required to re-submit an official copy of high school transcript showing receipt of high school diploma or official documentation that a GED has been received. A re-admitted student who has not completed developmental courses is recommended to re-take the college placement test.

International Student Admissions

International students are admitted to the College through the Enrollment Services Express Center. Applicants interested in obtaining an F-1 (full-time student) visa must complete an application for a Form I-20 in addition to the application for admission.

For students applying from outside the United States, the application deadlines are as follows:

- Completed applications filed before June 1 are accepted for Fall semester.
- Completed applications filed after June 1, but before October 1, are accepted for Spring Semester.

International students who wish to transfer to ECC from another U.S. college must meet the following deadlines:

Fall Semester	July 15
Spring Semester	November 15

Please note that international students are not admitted for the Summer terms.

Supporting Documents (International Students)

All international student applicants must submit to the Essex County College Enrollment Services Express Center the following documents in addition to the application for admission:

- Application for Form I-20;
- Educational credentials, which indicate the equivalence of high school degree in the United States;
- Affidavit(s) of financial support and required financial evidence;
- Affidavit of room & board (if applicable) and required evidence;
- All documents must be current and in English.

International students transferring from another U.S. institution must submit the following additional documents:

- International Student Advisor's Report Form;
- Passport, visa, and Form I-94;
- All previously issued Form I-20s;
- Official college transcript.

For more information, contact the International Student Advisor Office located in the Enrollment Services Express Center or visit our website at www.essex.edu.

Declaration of a Major

Students declare their major by indicating the appropriate curriculum code for their major field of interest on the application for admission. Only students pursuing a degree or certificate are required to declare a major. Students interested in Nursing and Allied Health may apply to any other major and complete the pre-major requirements before being considered for admission to the program. Any student requiring remedial or bilingual instruction as a result of the College Placement Examination must complete all required courses prior to being advised for their major field of interest.

Admission to Nursing and Allied Health Programs

Admission to the following specialized programs is subject to additional criteria.

Dental Assisting
Dental Hygiene
Nursing
Physical Therapist Assistant
Radiography
Respiratory Care
Vision Care Technology

Applicants to these Allied Health and Nursing programs must meet special admission requirements. Students are admitted to the Nursing and Allied Health programs only on the approval of program admission committees and after satisfactorily completing specified pre-major requirements. For information on the requirements, refer to the Degrees and Certificate Programs section of this catalog; use the Academic Programs Index in this section to locate the individual programs and find detailed information on them.

Enrollment Status and Student Categories

The College recognizes the following categories of students as either full-time (registered for 12 or more credits per semester) or part-time (registered for less than 12 credits per semester).

Matriculated Students:
Students officially enrolled in programs of study leading to a degree or certificate.

Non-matriculated Students:
Students taking credit courses for personal interest, career advancement, enrichment, or transfer to another college where they are matriculated. **Non-matriculated students are not eligible for financial aid.** It is recommended that non-matriculated students enroll in no more than two courses a semester and that at the completion of 12 credits they meet with an academic counselor to review the requirements and complete the necessary paperwork for matriculation.

Registration

Registration dates will be announced in advance by the College. Students can register online at webservices.essex.edu or in-person at designated registration sites.

Holds

A "Hold" may be placed against the records of any student who does not provide a valid address, pay all bills by specified deadlines, return library books, complete immunization requirements, return athletic equipment or other College property, respond to official College correspondence, or comply with other College regulations. A "Hold" prevents a student from registering for classes or receiving grades or a transcript.

Course Schedule

A schedule of classes listing the days and times for each course will be published and are generally available prior to registration. The course schedule can also be viewed online through the College website.

The College reserves the right to change or cancel any course or courses if this is deemed necessary by departmental or College needs.

Registration Procedures

New Students

1. Apply to the College by completing and submitting an application for admission and complete the pre-enrollment test (college placement test).
2. Attend new students orientation and complete the advisement and registration process.
3. Make payment to the Bursar's Office.

Non-matriculating Students

1. Apply to the College by completing and submitting an application for admission. Non-matric students must bring a college transcript or written permission from the home school to verify course prerequisites.
2. Report to the academic division/department where the course is being offered.
3. Take the completed, signed advisement/registration form to a designated registration site.
4. Make payment to the Bursar's Office.

Returning Students

1. Report to your major academic division/department at the main campus or the multipurpose room at the West Essex Campus for advisement on any of the schedule registration dates.
2. Students can register online at webservices.essex.edu, or in-person at designated registration sites.
3. Make payment to the Bursar's Office.

Adding and/or Dropping Courses

Registered students can drop or add courses anytime during the registration and add/drop period. Courses dropped during the add/drop period will not appear on the student's permanent transcript.

Cross Registration

Students may register under certain conditions for a course at Rutgers-Newark or New Jersey Institute of Technology through the cross registration process. Students must obtain prior approval from the division chairperson of their major, and report to the host school Registrar to complete the registration process. Tuition will be charged at the Essex County College rate and is payable to the home school. Cross registration is not available during the summer terms. Students must adhere to the registration, add/drop, and withdrawal procedures of both the home and the host school.

Auditing a Course

Auditing a course provides students with the opportunity to explore academic areas of interest. Students must declare intent to audit a class by the specified deadline date. Once a student declares intent to audit, the audit grade cannot be changed to a letter grade. No credit is granted for audited courses and a grade of "Audit" cannot be used to fulfill graduation requirements.

Enrollment Services Express Center

The Enrollment Services Express (ESX) Center, located on the 4th floor of the main campus, was established to provide quality customer service to current and prospective students. The Center provides a one-stop service in admissions, testing, registration, graduation, grades, transcripts, and general financial aid inquiries. The tests administered at the Center are: Placement test, College Level Examination Program (CLEP), and the General Education Development (GED) test. The Center is staffed by caring and qualified staff to assist students. The Center operates Monday through Thursday from 9:00 a.m. to 6:30 p.m., and Friday, 11:30 a.m. to 4:30 p.m. To contact the Center, please write or call:

Essex County College
Enrollment Services Express Center
303 University Avenue
Newark, NJ 07102
Phone: (973) 877-3100, Email: ESX@essex.edu

FINANCIAL REQUIREMENTS AND FINANCIAL SERVICES

Tuition and Fees

Tuition and fees at Essex County College are established by the College's Board of Trustees. Those presented here are for the 2006-2008 academic year only.

Students should also consider other expenses (meals, books, transportation, etc.), which will vary widely from student to student. Book charges for some full-time students may be as high as $500 per semester. A student whose funds are limited must plan carefully for a workable budget.

The College recognizes that many students need financial assistance in order to attend college. To help them, the Financial Aid Office administers various types of federal and state aid. Counselors also have information and can give advice concerning employment opportunities and methods of handling personal finances.

Essex County College reserves the right, with no prior notice, to restructure tuition and fee rates.

Tuition

Tuition is based on the total number of credit hours or instructional hours for which a student registers.

Category	In County Residents	Out of County & Out of State Residents
Tuition per credit hour	$81.00	$162.00
Non-credit tuition per instructional hour	7.25	7.25

Tuition and Fees Schedule

Item	In County	Out of County
Application Fee	$25.00	$25.00
Audit Fee Per Credit Hour	81.00	162.00
CEU Certificate Fee	8.00	8.00
CLEP Fee Per Session	15.00	15.00
Course Change Fee Per Transaction	15.00	15.00
Deferred Payment Default Fee	100.00	100.00
Deferred Payment Plan (Enrollment Fee)	35.00	35.00
Degree Audit Fee (Initial Degree or Certificate)	50.00	50.00
Degree Audit Fee (Additional Degree or Certificate)	25.00	25.00
Dishonored Check Fee	35.00	35.00
General Fee per Credit Hour	24.50	24.50
ID Card Replacement fee	5.00	5.00
Late Payment Fee	25.00	25.00
Late Registration Fee	25.00	25.00
Medical Insurance Fee Per Year	38.00	38.00
Medical Insurance Fee - Spring Only	29.50	29.50
Non-Credit Computer Lab Fee Per Instructional Hour	1.00	1.00
Non-Credit Tuition Per Instructional Hour	7.25	7.25
Off-Campus Registration Fee Per Course	5.00	5.00
Parking Fee	25.00	25.00
Readmission Fee (Non-Refundable)	25.00	25.00
Student Activity Fee Per Credit Hour	6.00	6.00
Student Class Schedule Bill Replacement Copy	1.00	1.00
Testing-Out Fee Per Credit Hour-Letter Grade	81.00	162.00
Transcript Fee - Official Copy	5.00	5.00
Transcript Fee – Unofficial Copy	5.00	5.00
Tuition Per Credit Hour	81.00	162.00

Laboratory Fees

A laboratory fee is charged in addition to tuition for specific courses identified in the course descriptions section of the catalog. This fee helps defray the costs of additional class hours, special instruction, special equipment and materials, special facilities, and/or expendable supplies required in the indicated course. The fee varies depending on the course.

Essex County Residents

To qualify for the in-county tuition rate, students must have continuously resided in the State of New Jersey for at least one year and must have established permanent residency in Essex County before the first day of the semester. Students who have established permanent residency in Essex County before the first day of the semester, but have resided in the State of New Jersey for less than a year, will be charged the out of county tuition rate. Students moving from out of county to in county, and in county residents who have met the one year state residency requirement, must submit a Change of Address form and a Tuition Rate Adjustment Request form with supporting documents to the Enrollment Services Express Center before the first day of the semester.

Out-of-County Residents

All other students who have not established permanent residency in Essex County are charged at the "Out-of-County Resident" tuition rate. These include students with F-1, H-1, or J-1 Visa, Temporary Residents, and those with Employment Authorized status. Please note that in accordance with N.J.S.A. 18A:64A-23, pursuant to the Chargeback Laws of 1968, out of county residents who are eligible for chargeback assistance must apply to their home County College and home County Treasurer for a tuition chargeback. The chargeback forms should be presented to the ECC Bursar's office by the end of the second week of class to obtain a 50% credit against tuition.

Tuition Payment Methods

Full Payment

Full payment of registration bills may be made in cash, by check (certified or personal), by money order, by credit card (Visa/Master Card or Discover Card), or via web services (webservices.essex.edu). Any student who has previously presented a dishonored check to the College cannot pay tuition with a personal check. Full payment by cash or credit card will be accepted at the Cashier window at the Fourth Level in the main campus and at the Bursar's Office in the West Essex Campus.

Tuition Payment Mail Drop System

If you are paying your bill by money order, cashier check, certified check, or personal check, it is not necessary to wait on line. You can mail your full payment to the Bursar's Office or use the tuition payment mail drop system available for your convenience in Room 4121 (Bursar's Office) at the Main Campus and at the Bursar's Office window at the West Essex Campus. Simply follow the instructions imprinted on the envelopes provided to ensure proper payment. If any of your previous personal checks were returned to the College for insufficient funds, you can still use the tuition payment mail drop system, but you must pay by money order, cashier check, or certified check.

Deferred Payment Option

For students who are unable to pay the full amount of their bill at registration, the College makes available a deferred payment plan. The plan allows the student to pay the tuition bill in a number of installments. Contact the Bursar's Office at (973) 877-3099 to obtain a detailed description of the plan.

Tuition Refund Policy

All cash paying students (non-financial aid) who officially withdraw from the College (by completing and submitting a withdrawal form to the Enrollment Services Express Center), or officially drop a course or courses, may receive a tuition refund based on a refund schedule available at the Bursar's Office. Students who withdraw after the dates listed in the schedule will be responsible for payment of the entire bill. Students who are on a deferred payment plan must also follow the schedule and arrange to pay any outstanding balance if the recalculation of tuition and fees is larger than the amount already paid.

To be eligible for a refund or adjustment, a student must officially drop or withdraw from the class. **Non-attendance does not constitute an official withdrawal and is not covered by the refund policy. A withdrawal becomes effective the day the individual gives written notice to his/her academic division counselor. Written notice by mail becomes effective the day after the letter is postmarked.** The processing of refunds takes approximately 30 days. Refund checks are made available through the Bursar's Office.

Note: Fees are non-refundable except for course cancellations and for withdrawals prior to the first day of the semester.

Consequences of Not Meeting Payment Obligations to ECC

- Students who do not make the required first payment by the scheduled due date will have their registration canceled.

- Students who enrolled in the deferred payment plan will be charged a $100.00 deferred payment default fee if their account is not paid in full by the end of the semester. This fee is in addition to any late fee assessments.
- ECC's collection policy is to forward past due accounts to a designated collection agency. If your account is forwarded, it may have a detrimental effect on your ability to obtain credit in the future.

Tuition Waivers

Senior Citizens

Tuition and fees will be waived in credit courses for senior citizens under certain conditions. In order to qualify, individuals must be:

1. Residents of Essex County;
2. Sixty (60) years of age or older; and
3. Registered in courses on a space available basis, subsequent to the determination that the minimum enrollment of tuition-paying students has been met.

Unemployment

Tuition may be waived for students who are unemployed. Students must be referred by their local unemployment office. Students must declare a major. Students must apply for financial aid. Registration will be on a space-available basis.

Student Health Insurance

The State of New Jersey requires health insurance for all full-time students (12 or more credits). All Essex County College full-time students will automatically be charged for health insurance once each academic year, either during the Fall or Spring semesters. Students are responsible for filing any insurance claims.
Students who produce documentation indicating existing health coverage can complete a waiver card to drop the College plan and receive a credit equal to the premium charged on their bill. Waiver cards must be completed by the second week of classes and submitted to the Bursar's Office.

Financial Aid

The Financial Aid Office administers funds from federal and state sources in the form of grants, scholarships, and employment, or a combination of all three. ECC's financial aid program is designed to assist students who seek an education but lack the means to finance it. Applicant eligibility and program guidelines are determined by federal and state regulations. Students interested in applying for financial aid must file the Free Application for Federal Student Aid (FAFSA) which is used to determine eligibility for all federal and state funds. This form can be obtained in the Financial Aid Office and is also available in public libraries and high school guidance offices. Students are encouraged to file the FAFSA via the Internet by logging on to the website www.fafsa.ed.gov or by visiting the Assessment Lab located in Room 4191 (main campus) where staff will assist them with the process.

Applicants for financial aid must demonstrate the ability to benefit from the programs offered at ECC by having either a high school diploma or GED, or by successfully passing a test approved by the U.S. Department of Education. Essex County College participates in the following financial aid programs.

- Federal Pell Grant
- Federal Supplemental Educational Opportunity Grants (SEOG)
- Tuition Aid Grant (TAG)
- Educational Opportunity Fund Grant (EOF)
- Garden State Scholarship (GSS)
- Part-time Pilot TAG Program (PPTG)
- Edward J. Bloustein Distinguished Scholars Program
- Federal Work-Study Program (FWS)
- New Jersey Class Loan Program
- NJ Student Tuition Assistance Rewards Scholarship (NJ STARS)

All students interested in applying for these financial aid programs should review the financial aid information available on our website at http://www.essex.edu/academic/finaid/.

Returning or registered students must log on to webservices.essex.edu for general information about financial aid, to view your award status, or to check for information required to complete your application for aid.

Financial Aid Checklist

To ensure your aid is processed on time, please use this checklist as your guide for completing the financial aid process.

New Students – (Check all items that apply to you)

____1. Applied and accepted for admission to ECC.
____2. Taken the College's Placement Test.

____3. Taken the Ability to Benefit Test, if a Non-High School graduate.
____4. Submitted all required documents and forms to complete your application for aid by: **May 1** for Summer II Term and Fall Semester or by: **October 1** for Spring Semester and Summer I Term.
____5. Registered for 12 or more credits, if you want to receive State Aid (TAG and EOF).
____6. Once registered for classes, log on to webservices.essex.edu to check your Award status for the semester/term.
____7. Picked up a Book Voucher from the Financial Aid Office, if you have funds remaining after tuition and fee charges were deducted from your financial aid award.
____8. If you answered "No" to No. 6 above, have you signed up with the College's Deferred Payment Plan to maintain your class enrollment?
____9. Register for 6-11 credits to receive aid from the Part-Time Pilot TAG (PPTG) Program.

Returning Students: (Check all items that apply to you)

____1. Taken and passed the Ability to Benefit Test, if a Non-High School graduate.
____2. Registered for 12 or more credits, if you want to receive State Aid (TAG and EOF).
____3. Submitted all required documents and forms to complete your application for aid by: **April 1** for the Summer II Term and Fall Semester or by **September 1** for the Spring Semester and Summer I Term.
____4. Logon to webservices.essex.edu to check your Award status for the semester/term.
____5. Picked up a Book Voucher from the Financial Aid Office, if you have funds remaining after tuition and fee charges were deducted from your financial aid award.
____6. If your answer is "No" to No. 3, have you signed up with the College's Deferred Payment Plan to maintain your class enrollment?
____7. Register for 6-11 credits to receive aid from the Part-Time Pilot TAG (PPTG) Program.

Satisfactory Academic Progress

Federal and state regulations require students receiving financial aid to maintain satisfactory academic progress. Satisfactory academic progress is evaluated once per year. For specific information, go to our website at http://www.essex.edu/academic/finaid/academic.progress.html.

Financial Aid Tuition Adjustment

The U.S. Department of Education has established a regulation for the Return of Title IV Funds to students who totally withdraw from all their classes. This policy applies to students receiving funds from the Pell and Supplemental Educational Opportunity Grant Programs. Awards will be adjusted for students who totally withdraw from all classes during an academic semester. Students are required to complete 60% of the semester to earn all aid awards. If the amount disbursed is greater than the amount the student has earned, unearned funds must be returned to the Department of Education by the College and/or the student. Please contact the Financial Aid office for specific information.

Financial Aid Refund Policy

Students receiving financial aid who totally withdraw or are reported for not attending classes will be subject to an award adjustment. This may result in all or part of the refund being returned to the student financial aid programs.

NJ STARS - Free Tuition

NJ STARS (Student Tuition Assistance Reward Scholarship) is a program created by the State of New Jersey that provides two years of free tuition to New Jersey high school students who graduate in the top 20% of their high school class. NJ STARS will cover tuition (for up to 15 credits) and most fees for up to five semesters for first-time college students. To qualify, you must:

- Graduate in the top 20% of an Essex County high school;
- Be a United States citizen or permanent resident;
- Complete the financial aid application process, including verification, to apply for all forms of federal and state financial aid;
- Enroll in 12 or more college level credits at the college;

For more information about the NJ STARS Scholarship, please call (973) 877-1941.

Scholarships

Essex County College awards many scholarships to both returning and graduating students. There are three types of scholarships for returning students: presidential, international, and external donor scholarships.

Returning students may apply for international or external donor scholarships. Presidential scholarships

are awarded by the President of Essex County College. International scholarships are open to students with F1 visa status. Criteria for external donor scholarships vary from one type to another. Students receiving financial aid are not eligible for international or presidential scholarships. External donor scholarships may be awarded based on a student's unmet financial need. Students must apply for scholarships 15 days prior to the last day of classes. Application forms for Fall are available during the first week of April and those for Spring are available during the first week of October.

Graduating students may apply for transfer scholarships. Every year, over 20 organizations provide scholarships to graduating students from Essex County College who have been accepted as transfer students at four-year colleges and universities. This category of scholarships does not exclude students on financial aid. Applications are mailed to all students eligible for graduation during the first week of February.

The college also offers a limited number of book scholarships every semester to returning students. Details of the criteria, application procedures, and deadlines are available in the Office of the Dean of Student Affairs, Room 5105, and in the Scholarship Handbook posted on the college website at www.essex.edu.

Academic Policies

Academic Calendar and Course Load

Semesters and Summer Terms

The Fall and Spring semesters are 15 weeks long. The two summer terms are seven and six weeks long, respectively. Students must enroll in at least one academic semester or term within a three-year period to maintain active enrollment.

Academic Program Course Load

A normal course load for full-time students is 12 to 16 credits during a semester and six to nine credits during a summer term. Foreign students and students receiving state financial aid must be enrolled full-time, i.e., 12 or more credits per semester. A student who wishes to take 16.5-18 credits in a given semester must have a grade point average of 3.0 or higher. A student who wishes to take 19-21 credits in a given semester must have a grade point average of 3.5 or higher; any such course load must be approved by a divisional chairperson. An academic dean must approve requests in excess of 21 credits.

Academic Standing

Transfer Credit

Credits transferred from other regionally accredited colleges and universities will be included in the total number of credits earned at ECC. In order to transfer, such credits must relate to courses and programs offered by ECC. Courses transferred from other institutions of higher learning must carry grades of "C" or higher. Transfer students must complete a minimum of 30 credits, including half their major course requirements, at ECC. Credits from institutions not accredited by regionally accredited agencies (e.g., Middle States) will not be accepted; however, credit may be granted to students who "test out" (i.e., demonstrate mastery of subject content via examination), when such tests are available. The same guidelines pertain to students who wish to transfer courses into the College's certificate programs; half of the credits for such programs must be completed at ECC.

Testing Out – Letter Grade

The College has initiated a "testing out" procedure in some courses to allow students to receive credit for a course when they can demonstrate the level of proficiency necessary to satisfy the requirements for the course. Students must register and pay for the course. Students must consult with the academic division where the course is offered.

Credit by Examination

ECC's Credit by Examination Program enables students with appropriate knowledge and experience to secure college credit. Credit will be granted to students admitted to ECC who pass examinations approved by Enrollment Services and appropriate academic departments. In some instances it may not be possible to offer credit by examination because no relevant test exists in certain disciplines. When granted, a grade of "CR" will be entered as transfer credit on each student's transcript.

Credit by examination may be granted for the Defense Activity for Non-traditional Educational Support (DANTES) and the College Level Examination Program (CLEP).

Students interested in applying for credit by examination should contact either Enrollment Services Express Center or the appropriate academic division.

Change of Major

To change a major or to add a second major, a student should discuss the proposed change with a counselor or faculty advisor, complete a Change of Major form, and return the signed form to the Enrollment Services Express Center. Graduation requirements will be those in effect on the date the student matriculates in the new major.

Repeating a Course

When a student earns a "D" or "F," he or she may repeat the course in an attempt to earn a higher grade. Although the "D" or "F" remains on the transcript, the higher of the two grades will be counted in the cumulative grade point average. When a student earns a "D" or "F" in a remedial/developmental course (i.e., a course below the 100-level), the student must repeat the course before enrolling in the next course in the sequence. A student may not repeat a course more than once except with the written permission of a counselor.

Academic Progress

Guidelines for academic progress and good academic standing include the following:

- Good Academic Standing is defined as a cumulative grade point average (GPA) of 2.0 or above. Students are advised that they must attain an overall GPA of 2.0 or above to graduate from ECC's degree or certificate programs.
- Probation is defined as a cumulative combined GPA of less than 2.0. A student whose cumulative combined GPA goes below 2.0 is placed on probation.
- Suspension (for one academic period) occurs when a student with a cumulative combined GPA of less than 2.0 earns a GPA of less than 2.0 in a successive term.
  a. A student who is suspended from the College may appeal for reinstatement or may remain suspended for one semester before applying for reinstatement. Students returning after suspension are not eligible for financial aid until they have successfully completed nine credits with grades of "C" or above.
  b. A student who is reinstated after suspension must complete a minimum of nine credits with a GPA of 2.0 or higher to be considered as making satisfactory academic progress.
  c. A previously suspended student who is readmitted and who attains a cumulative GPA of less than 2.0 two terms after being readmitted will be dismissed.
- Dismissal from the College for two years occurs when a student who has been reinstated after suspension receives an academic period GPA of less than 2.0. Students returning after dismissal are not eligible for financial aid until they have successfully completed nine credits with grades of "C" or above.
- Academic probation is defined as a cumulative combined GPA of less than 2.0 followed immediately by a semester GPA of 2.0.

Students are responsible for ensuring that they complete all requirements for their degrees and certificates listed in departmental handouts and the official College catalog.

Financial Aid Students: visit our website at http://www.essex.edu/academic/finaid/academic.progress.html to review the Academic Progress Policy for students receiving financial aid.

Appeal Process

A student suspended or dismissed from the College may appeal for reinstatement through the Academic Review Committee (ARC) by submitting an appeal letter to the Dean of Student Affairs. The Review Committee will meet with the student and review the appeal. A reinstated student will not be eligible for financial aid until he or she has successfully completed nine credits with grades of "C" or higher.

Financial Aid Students: visit our website at http://www.essex.edu/academic/finaid/academic.progress.html to review the Academic Progress Policy for students receiving financial aid.

Attendance

Regular and prompt attendance is essential for academic success. Faculty members take attendance at each scheduled class session. Students are expected to attend and be on time for all classes. Individual faculty members may establish specific attendance policies. It is the responsibility of the student to know and follow the attendance policy as required for each course. Students with excessive absences may be referred to a counselor. Insufficient attendance at regularly scheduled classes may result in failure or removal.

A student who is absent from all classes during the first ten class days of the fall and spring semesters, or

the first five days of summer terms, will be recorded as a "No Show." A withdrawal will appear on the student's record and the student will be notified of the "No Show" status by the Registrar's Office. Students are advised that "No Show" status in one or more courses may affect their eligibility for financial aid and veterans' benefits.

Students who stop attending classes without officially withdrawing will be recorded as "Not in Attendance" and will receive grades of "F." This status may also affect their eligibility for financial aid and veterans' benefits.

Academic Forgiveness

The College's academic forgiveness policy provides previously enrolled students who have been away from the college for at least three years and have successfully completed a minimum of 12 college-level credits with grades of "C" and above with an opportunity to pursue a single "fresh start" at ECC. Under this policy, all courses together with grades earned prior to readmission will remain on the student's transcript but will not be used in computing the student's overall grade point average; neither can any of the previously taken courses be used to fulfill degree or certificate requirements.

Applications must be made through an academic counselor who will review and discuss it with the student before submitting it to the chairperson of the division or department in which the student intends to pursue a major. If approved by the chairperson, it is forwarded to the appropriate dean.

Grades

Grading System

Letter Grade	Description	Grade Points Per Credit Hour
A	Superior	4.0
B+	Very Good	3.5
B	Good	3.0
C+	Above Average	2.5
C	Satisfactory	2.0
D	Passing	1.0
F	Failing	0.0
I	Incomplete	0.0
	Grade denotes student has completed 75% of assigned course work with a grade of C or better but did not complete all course requirements. The faculty member must attach a completed Essex County College Grade Form to the final grade sheet. After six months, the original "I" will be recorded as an "F" unless it is changed by the instructor.	
NG	No grade received	0.0
T	Tutorial	0.0
W	Withdrawal	0.0
	Grade denotes official withdrawal from a course or from the college.	
AU	Audit	0.0
	Grade denotes student was not enrolled in the course for credit.	
CR	Credit	0.0
	Grade reserved for courses passed by examination or accepted as transfer credit and indicates satisfactory completion of a course.	

Grades of "D" may not fulfill certain course prerequisites and major course requirements and will not transfer to other institutions.

Grades of "W," "AU," "CR," and "I," are not counted in the computation of grade point.

Withdrawal

Students who wish to withdraw totally from the College must contact a counselor to discuss financial aid and other important implications. Failure to attend classes or merely notifying one's faculty member(s) is not an official notice of withdrawal. In cases of emergency, written notice may be mailed to the counselor. Such written notice becomes effective one day after the letter is postmarked.

Students may apply for and receive a grade of "W" up to the week following the mid-term grade reporting period. The last day for withdrawals shall be posted for each semester and term in the College calendar and schedule books.

Grade Point Average

Academic achievement during a semester or term is measured by a student's grade point average (GPA). The measure of academic achievement for all work completed is referred to as the Cumulative Grade Point Average (CGPA).

A semester GPA is determined in the following way:

1. Allowing 4 points for an A, 3.5 points for a B+, 3 points for a B, 2.5 points for a C+, 2 points for a C, 1 point for a D, and 0 points for an F, multi-

ply the number of points equivalent to the letter grade received in each course by the number of semester hours for the course, thus arriving at the grade points earned for each course.
2. Add the grade points in each course to obtain the sum of grade points for the semester's work.
3. Divide the total grade points by the total number of semester hours attempted. The result is the grade point average.

The following example illustrates the GPA of a student with grades in five courses.

Course	Grade	Semester Hours		Point Equivalents	Grade Points
Biology	B	4	x	3.0	12
Math	C	3	x	2.0	6
English	C+	3	x	2.5	7.5
Sociology	C	3	x	2.0	6.0
Business	B	3	x	3.0	9
		6			40.5

40.5 (total grade points) divided by 16 (semester hours attempted) = 2.53 GPA

The CGPA is calculated in the same way as the semester GPA except that all attempted semester hours are taken into account. The student's CGPA will include only those courses taken at Essex County College.

Grade Reports

Final grades are recorded as part of each student's permanent academic transcript.

Mid-term grade warnings are issued to students whose work is unsatisfactory. Warning grades are for advisory purposes only and are not part of students' permanent academic transcript.

Students can view grades online at webservices.essex.edu.

Grade Changes – Time Limit

All approved grade changes must be submitted to the Enrollment Services Express Center (Registrar's Office) within one year of the original grade assignment.

Class Standing

A freshman is defined as a matriculated student working toward a degree who has earned 29.5 or fewer college-level credits. A sophomore is defined as a matriculated student working toward a degree who has earned 30 or more college-level credits.

Dean's List

A Dean's List is published every semester. Full-time students named to this list must have earned a grade point average of 3.5 or higher in that semester and have no "I" grades or any grade lower than "C" for the semester in which the student is named. Only college-level courses are computed. Part-time students are also eligible. To qualify, part-time students must also have earned a 3.5 or higher grade point average, no grade of "I," no grade lower than "C," and at least 12 college-level credits within a given academic year (e.g., 2001-02, 2002-03).

Transcripts

A Transcript is the student's permanent academic record. Students can access their transcript online via webservices.essex.edu.

Official Transcripts are directly sent to other colleges or third parties, upon written request and authorization by the student. Official transcripts will not be issued directly to the student.

A Student Copy transcript is issued upon written request and authorization by the student.

a Transcript Fee is charged to current and former students for each transcript that is generated.

Transcripts will not be issued until all outstanding obligations to the College are satisfied.

Graduation

Degree Students

Upon completion of 40 college credits, all currently enrolled matriculated students receive degree audits to determine compliance with the requirements in their primary major. Students who are approved for a second major should file a Degree Audit Request form at the Enrollment Services Office during their final semester.

Certificate Students

Students in Certificate programs should file a Certificate Audit Request form at the Enrollment Services Office during their final semester.

Graduation Requirements

Students who have successfully completed all requirements for degrees and certificates will be graduated from the College. Students are governed by the graduation requirements in effect at the time of their matriculation.

In order to graduate, students must have cumulative GPAs of 2.0 or better. Additionally, students must earn grades of "C" or better in all major courses. Credits transferred from other regionally accredited colleges and universities or earned via examination or Advanced Placement will be included in the total number of credits earned. Credits transferred from other institutions of higher learning must be "C" or higher. Transfer students must complete a minimum of 30 credits, including half their major course requirements, at ECC.

Additional Degrees and Certificates

Students may earn a second degree if certain conditions are met. Students interested in declaring an additional major should do so through their academic advisors using a college-provided form ("Application for Second Degree"), indicating which major is primary and which major is secondary. Students must submit this form before they have accumulated 45 college credits. All requirements in both majors must be met in full. Students may not earn two separate degrees in the same discipline – e.g., accounting (A.S., A.A.S.), manufacturing engineering technology/mechanical engineering technology option, computer science/ applied computer science. Courses from one discipline may be used to meet the requirements of the second discipline; however, a minimum of 12 additional credits of approved major subject area credits must be earned in the second discipline at ECC that were not used to satisfy requirements for the primary discipline. The same guidelines pertain to students seeking third and other successive degrees. The "Application for Second Degree" form will be completed by the student and his or her advisor, approved by the chairperson or director, and then by an academic dean or vice president, who will forward it to the Registrar. The Registrar will notify the student of the status of the application. The most frequent application for a second degree is expected to be among students in computer science who also seek to major in mathematics; however, there are various combinations that might apply throughout the institution.

Students may also earn multiple certificates – academic certificates (30 or more credits) and/or certificates of completion (less than 30 credits). Courses used to satisfy the requirements for one certificate can be used to satisfy requirements for other certificate programs and degrees. However, it should be noted that a student who earns a degree in a given program cannot subsequently earn a certificate in that same program without taking additional course work.

Graduation with Honors

Students will be graduated with honors as follows:

Highest Honors	CGPA	3.85 to 4.00
High Honors	CGPA	3.65 to 3.84
Honors	CGPA	3.50 to 3.64

These honors will be noted on students' transcripts.

Commencement

An annual commencement (graduation) ceremony is held on the first Sunday in June. Students who have completed degrees or certificates with 30 or more credits will be invited to participate in the annual commencement ceremonies.

Students who are completing their degree or certificate requirements during the first summer term will be permitted to participate in the annual commencement.

Academic Integrity

Essex County College's trustees, faculty, and administrators are dedicated to mutual respect and the free exchange of ideas in classroom, laboratory, and other academic settings. Students who enroll at ECC join with these other individuals to observe guidelines regarding free inquiry, academic honesty, and civility in the classroom and related forums.

The College's administration recognizes the common interest of faculty and students in the pursuit of truth and understanding. This includes the right to present and the obligation to receive divergent views when legitimate intellectual differences exist.

Students are advised that their obligations in this respect include but are not limited to the following:

- To present only such homework assignments, term papers, examination papers, etc. that are the results of their own work;
- To honestly pursue research and scholarship by acknowledging sources used in term papers and other assignments;
- To refrain from fabricating sources and data;
- To practice fairness in competing with peers

through recognition of others' rights to gain access to information and materials, respect for others' right of access to facilities and equipment, and adherence to rules governing their use;
- To accurately represent the results of experimental, survey, and other findings; and
- To respect the rights of others to hold differing views based on reason, research, and recognized standards of evidence.

Moreover, any theft or alteration of academic materials, or the destruction of the academic work of others, constitutes a serious breach of academic integrity.

In the case of an alleged infraction, the appropriate divisional or departmental chairperson will handle the matter and if necessary initiate formal charges with an academic dean.

Student Right-to-Know

Students are advised that graduation rates and time to graduation by program are available from the Office of Institutional Research. Graduation rates for student athletes on scholarships are available from the Dean of Student Affairs' Office.

STUDENT SERVICES

Essex County College has qualified faculty and staff to help both day and evening students. We invite you to tour our megastructure or West Essex Campus, visit with faculty, and speak with an admissions officer. To schedule a tour or receive an application, contact the Enrollment Services office at either campus by writing or calling:

Essex County College
Enrollment Services Express Center
303 University Ave.
Newark, NJ 07102
(973) 877-3100

Essex County College
Enrollment Services
730 Bloomfield Ave.
West Caldwell, NJ 07006
(973) 877-6590

Parking

Parking is available for students at Essex County College when a valid parking decal is properly displayed on the student's vehicle. Decals can be purchased at the Bursar's Office for $25.00 per semester. A parking decal is valid only during the semester for which it is purchased. Student parking privileges are on a first-come, first-served basis. Information on student parking can be obtained from the Public Safety Department, Room 2250 at the main campus, and the Campus Police at the West Essex Campus.

Food Services

ECC contracts for food services and provides a dining room with a variety of hot and cold meals, sandwiches, and desserts during day and evening hours at the main campus. Limited food services are provided at the West Essex Campus in the Student Lounge.

Bookstore

Essex County College has a bookstore on the main campus on the first level of the megastructure, and also one in the West Essex Campus. The stores carry textbooks and school supplies as well as paperbacks for supplementary classroom assignments and general reading pleasure. Software, computer disks, greeting cards, and many other items are available, as well as a large selection of gift items and apparel bearing the distinctive Essex County College crest.

Student Identification

All I.D. cards are issued free of charge to new students by the Public Safety Department. To obtain an I.D. card, all students must have two pieces of identification (a driver's license and a Social Security card are commonly used). Students must also present proof of tuition and fee payment for current registration. The student's I.D. card authorizes access to ECC and use of its facilities (e.g., library and computing labs); therefore, it must be retained by the student throughout the student's stay at ECC. Lost or mutilated cards may be replaced upon payment of a $5.00 fee at the Public Safety Department. Further information regarding I.D. cards can be obtained from the Department.

Counseling

Counselors at Essex County College work with students to help them grow personally and academically. Students maximize their potential through the services of these professionally trained counselors. Counselors provide students information about College requirements and procedures, academic programs, financial services, and transfer and employment matters. Students who need assistance with self-improvement concerns, study and test-taking skills, time manage-

ment, personal issues, and career decision making can find help through their counselors.

Counselors are assigned to students according to the academic major or program such as Educational Opportunity Fund (EOF) and Special Programs. Counselors are located throughout the College in divisional and departmental areas and also at West Essex, FOCUS, and Ironbound Extension Centers. This allows the counselor to meet students and consult with faculty members in the area in which the major or program is located. Counselors are available on both an appointment and a walk-in basis. Counselors serve on, and in some cases, chair College wide committees and teach Career Planning and Freshman Orientation courses.

Freshman Center

The Freshman Center is an office staffed by successful continuing students who help acclimate new students to college life. The Center offers personalized attention through mentoring and providing information and referral to the many resources and departments at ECC. Orientation activities, faculty and student mentoring, weekly open discussions, and drop-in services are also offered by the Center. Under the supervision of the Center, graduates of the College also serve as student support specialists assisting in advisement, registration, and mentoring activities.

Veterans Affairs

The Office of Veterans Affairs (OVA) provides assistance to the veteran population at Essex County College, both at the main and West Essex Campus locations. At the main campus, the office is located on the fourth level of the megastructure as a part of the Office of Recruitment and Marketing. The office provides certification services for qualifying veterans and their eligible dependents. Eligibility determination is made by Veterans Administration. Veterans have ten years from their date of separation from active duty to use their entitlement. All of ECC's degree and certificate programs are approved by the New Jersey Department of Military and Veterans' Affairs, the state approving agency under Title 38, U.S. Code, Section 1775, for veterans training. Students receiving VA educational benefits may not withdraw from the College without notification to the Certifying Veterans Officer. The date of withdrawal will be the determining date for benefits.

International Student Services

International students are assigned to a special advisor in the Recruitment/Marketing office. The International Student Advisor is available for direction concerning visas, travel to other countries, and communications from the Immigration and Naturalization Service. Every effort is made to bring international students into the life of the community and to make their stay in the United States a meaningful experience. International understanding is strengthened by the many contacts these students have in the social and cultural organizations of the College community. Housing facilities are not provided by the College.

Child Development Center

The Essex County College Child Development Center, located on the first level of the Physical Education Building, provides a full-day educational program for children between the ages of two and five. The Center is accredited by the National Academy of Early Childhood Programs. Services are available to children whose parents are enrolled or employed at Essex County College. The Center is also open to the Essex County community on a space-available basis. The Center operates 52 weeks per year, Monday through Friday from 7:30 a.m. to 6:00 p.m. During the Fall and Spring Semesters, the Center also offers evening hours.

Career Resource Center

The Career Resource Center, located on the fourth floor of the megastructure, assists ECC students and alumni in all aspects of their career development by providing career counseling, vocational counseling, job search skills workshops, resume referral services, and placement opportunities, including job fairs and on-campus recruitment by area employers. Staff is available to guide students through online career guidance and assessment software. Assistance is also provided concerning resume and cover letter preparation and interviewing techniques. The Center maintains a resource library with quality texts and videos pertaining to occupational selections. The College Work/Study placements is also done in the Center and Cooperative Education opportunities are available through this program.

Students are encouraged to visit the Career Resource Center in their first year of attendance and to register in eRecruiting for career-related employment when they have earned 40 credits toward their degrees.

Disability Support Services

The Office of Disability Support Services, located in the Career Development & Disability Support Services Center in room 4120 of the megastructure, coordinates and implements services for students with disabilities. The College also networks with various agencies to complement the services. The focus is to help students with disabilities carry out their educational objectives with various forms of assistance.

A student with a "disability" is defined as a student who has any mental and/or physical condition that substantially impairs or restricts one or more major life activities. Disabilities may be in the form of visual impairment, psychological/emotional disabilities, speech and/or hearing impairment, mobility impairment, substance abuse impairment, or other specific learning disabilities. Documentation on the nature of the disability is necessary if a student is to receive accommodations. The student, and no others, must submit his or her own accommodation requests and make disability-related decisions.

Health Services

The Health Services Department provides basic health care to ECC students for minor illnesses and injuries. Other services include immunizations, vision and hearing screenings, counseling on health-related problems, referrals to agencies or physicians for evaluation and treatment, health information, and alcohol and substance abuse services. Health Services is located in Room 2103 and is open Monday through Friday, 8:30 a.m. to 4:30 p.m.

Alcohol and Substance Abuse Services

Alcohol and substance abuse services are provided for all members of the College community. For those who require treatment at a specialized agency, referral through the Student and Employee Assistance Program is made to the appropriate detoxification/ rehabilitation or outpatient facility and self-help program. Pre-counseling, case management, follow-up, and recovery support are also provided. A comprehensive prevention, education, and outreach program is available and includes seminars and workshops, classroom modules, prevention training, information tables, special events, informal discussions, and a newsletter for concerned students, parents, and community groups. The services are available through the Health Services Office.

Student Records

Essex County College maintains academic and health records of all students enrolled in the College. Additionally, financial records are maintained on all students who receive financial assistance through the College.

Access to Student Records

The Family Educational Rights and Privacy Act (FERPA) of 1974 affords students certain rights with respect to their education records. They are:

1. *The right to inspect and review the student's education records within 45 days of the day the College receives a request for access.*

   Students should submit to the Dean of Student Affairs, or other appropriate officials, written requests that identify the record(s) they wish to inspect. The College official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the College official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

2. *The right to request the amendment of the student's education records that the student believes are inaccurate or misleading.*

   Students may ask the College to amend a record that they believe is inaccurate or misleading. They should write the College official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading.

   FERPA was not intended to provide a process to be used to question substantive judgments that are correctly recorded. The rights of challenge are not intended to allow students to contest, for example, a grade in a course because they felt a higher grade should have been assigned.

   If the College decides not to amend the record as requested by the student, the College will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. *The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.*

   One exception that permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the College in an administrative, supervisory, academic, research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the College has contracted (such as an attorney, auditor, collection agent, or official of the National Student Clearinghouse); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

   A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility. The College may disclose education records in certain other circumstances:

- to appropriate parties to comply with a judicial order or a lawfully issued subpoena;
- to appropriate parties in a health or safety emergency;
- to officials of another school, upon request, in which a student seeks or intends to enroll;
- to college officials in connection with a student's request for or receipt of financial aid, to determine the eligibility, amount, or conditions of the financial aid, or to enforce the terms and conditions of the aid;
- to certain officials of the U.S. Department of Education, the Comptroller General's office, or to state and local educational authorities, in connection with certain state or federally supported education programs;
- to accrediting organizations to carry out their functions;
- to organizations conducting certain studies for or on behalf of the College;
- to the alleged victim of a crime of violence when the crime was allegedly committed by the student; the College may disclose the results of an institutional disciplinary proceeding with respect to the crime.

4. *The right to file a complaint with the U.S. Department of Education concerning alleged failures by the College to comply with the requirements of FERPA.*

   The name and address of the Office that administers FERPA is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW., Washington, DC, 20202-4605

Directory Information

The College may disclose the following categories of student information, designated as public "Directory Information": The student's name, address, major field of study, degree sought, expected date of completion of degree requirements and graduation, degrees and awards received, dates of attendance, full or part-time enrollment status, the previous educational agency or institution attended, participation in officially recognized activities and sports, weight and height of athletic team members, and other similar information and photographs.

Students may restrict the release of Directory Information, except to school officials with legitimate educational interests. To do so, a student must make the request in writing to the Dean of Student Affairs. Once filed, this request becomes a permanent part of the student's record until the student instructs the College, in writing, to have the request removed.

For purposes of compliance with FERPA, the College considers all students independent.

STUDENT LIFE AND ACTIVITIES

Essex County College is committed to providing a well-rounded experience for our students through imaginative and interrelated projects. The Student Life and Activities Office (SL&AO) heightens and enhances the educational processes of the student population by planning and coordinating a variety of social, cultural, intellectual, and recreational programs. The SL&AO publishes and distributes the LIFELINE student handbook, the ECCO student newspaper and other promotional publications. The office also coordinates the sales of discount tickets to area cultural and sporting events, maintains a directory of off-campus housing listings, handles judicial affairs, and operates the Clara E. Dasher Student Center. The Student Life and Activities Office is located in the Dasher Student Center at the main campus and in the Student Lounge at the West Essex Campus.

Clara E. Dasher Student Center

The Clara E. Dasher Student Center provides students with an environment that promotes a sense of community and fosters intellectual, social, and recreational development through a variety of programs and services. Facilities include a game room, TV lounge, meeting rooms, study lounge, multi-purpose area, offices for the Student Government Association and the ECCO student newspaper, and an area for student clubs and organizations.

Student Government Association

The Student Government Association provides representation in the planning, execution, and evaluation of actions affecting the ECC student body, serves as a means whereby student opinions, views, suggestions, and aspirations may be properly discussed and acted upon, and provides guidance and financial assistance to student clubs and organizations.

The SGA Executive Board consists of matriculated students who have earned at least a 3.0 GPA. It functions under a constitution approved by the student body. The officers are elected each year.

The Student Government Association is located on the Second Level of the Clara E. Dasher Student Center and in the Student Lounge at the West Essex Campus.

Student Clubs and Organizations

Essex County College offers opportunities for leadership development and civic responsibility through its many clubs and organizations. The purposes and activities of the clubs/organizations shall be clearly related to the mission and goals of the College.

Clubs encompassing cultural, academic, and social issues are recognized by the institution and receive partial funding from the Student Government Association. Complete procedures are outlined in the LIFELINE Student Handbook and in the Clubs/Organizations Procedures Manual.

Student Conduct

ECC students are expected to conduct themselves in a manner that promotes and maintains an educational environment conducive to learning and collegiality. The College has established reasonable standards of behavior for students and reserves the right to take action, including suspension or expulsion, against any student whose conduct is deemed unacceptable.

The College Judicial Committee, comprised of students, faculty, and staff, reviews behavioral grievances brought by a member of the College community against a student and renders a recommendation of action to the Dean of Student Affairs.

Detailed information about the College Code of Student Conduct may be found in the LIFELINE Student Handbook.

Athletics

Essex County College offers a varied program of intercollegiate athletics for men and women. The program includes men and women's soccer, basketball, indoor and outdoor track.

Known as the "Wolverines," Essex County College teams are represented in the Garden State Athletic Conference (GSAC) and in Region 19 of the National Junior College Athletic Association. The College's teams have produced All-Americans in soccer, men's and women's basketball, and indoor and outdoor track. Essex has won the following championships:

Men's Soccer

1992	Region 19 Champions
1992	NJCAA Division I National Participants
1993	Region 19 Champions
1993	NJCAA Division I National Runners-up

1993 OSAC Champions
1994 GSAC Division I Champions
1994 NJCAA Region 19 Division I Runners-up
1999 Region 19 Champions
District Champions
6th Place finish in NJCAA National Championship
2000 Region 19 Champions
District Champions
6th Place finish in NJCAA National Championship
2001 Region 19 Participants
2002-04 Region 19 Runners-up

Men's Basketball
1992 Division I/II GSAX Co-Champions
1993/4 Blue Division GSAC Champions
1993/4 Division I/II GSAC Co-Champions
1994/5 Blue Division I Champions
1997/8 Blue Division I Champions
1998/9 Blue Division I Champions
1999 District Division I Champions
1999 NJCAA Division I Participants
2000 Region 19 Participants
2000-04 Region 19 Participant

Women's Basketball
1993/4 Blue Division Champions
1994/5 Blue Division Champions
2000 Region 19 Runners-Up
2000-04 Region 19 Participant

Men's Indoor Track
1990 2nd Place Region 15/19
1991 District Champions
1992 Region 15/19 Champions
1993 District Champions
1999 NJCAA 3rd Place
1999 Millrose Champions

Men's Outdoor Track
1991 District Champions
1992 Region 15/19 Champions
1992 Division I/II GSAC Co-Champions
1993/4 Blue Division GSAC Champions
1993/4 Division I/II GSAC Co-Champions
1994/5 Blue Division I Champions
1997/8 Blue Division I Champions
1998/9 Blue Division I Champions
1999 District Division I Champions
1999 NJCAA Division I Participants

Women's Indoor Track
1992 District Champions
1993 District Champions
1994 District Champions
1995 District Champions
1996 NJCAA Runners-Up
1996 District Champions
1997 District Champions
1997 National Champions
1998 NJCAA 3rd Place
1999 NJCAA 3rd Place
1999 District Champions
2000 District Champions
2000 2nd Place finish in NJCAA National Championship
2001 2nd Place finish in NJCAA National Championship
2002 NJCAA Champs
2004-05 NJCAA 2nd Place

Women's Outdoor Track
1990 District Champions
1992 District Champions
1996 NJCAA 3rd Place
1998 Penn Relays Shuttle Hurdle Champions
1998 District Champions
1999 District Champions
2000-03 NJCAA Participant
2004 NJCAA 2nd Place
2005 NJCAA 4th Place

Women's Soccer
2000 Region 19 Participants
2001 Region 19 Participants

Five ECC student athletes participated in the 2004 Olympics. Over the years, the College has had 16 student-athletes participate in the Olympics. A number of junior college, national, and world records have been set by ECC track athletes.

Academic Support Services

Academic Advisement

Before the beginning of each semester or term, each matriculated student is required to meet with a faculty advisor or counselor in his/her major area to select appropriate courses. Students are urged to meet with their advisor or counselor during each semester, as well, in order to review their academic plans and progress-to-date, as well as course load and schedule. Curriculum check sheets (list of required courses for each program) are available in the academic departments. Students are responsible for ensuring that they complete all requirements for their degrees and certificates listed in departmental handouts and the official College catalog.

Learning Center

The Learning Center, a 5,800-square-foot facility located on the Level II Forum at ECC's main campus, provides students with academic support in the areas of accounting, biology, chemistry, math, physics, English, English as a second language, and computer science. Assistance is available to students on an individual basis or as a small group, Monday through Saturday. Schedules are posted in each area to accommodate the needs of both full- and part-time students. The goal of the Learning Center is to assist students in acquiring and maintaining superior skills and an understanding of their area of study. To achieve this goal, Learning Associates provide new perspectives on course material and instill the study habits needed to succeed.

Cooperative Education Program

The Cooperative Education Program at Essex County College is designed to enrich the educational experience by combining classroom studies with assignments that are directly related to students' majors or career fields. Qualified students who are already employed or who are placed in employment through the Co-op Program can earn academic credits towards a degree or certificate. In most cases, students earn a salary that can help defray the costs of a college education.

The Cooperative Education Program also offers career education workshops and seminars including Career Development Seminars I and II, Choosing a Major, What Can I Do With My Major?, Resume Writing, Conducting a Successful Job Interview, and Dressing for Success.

The Transfer Center

The Transfer Center in the main campus (4th Floor) provides transfer information and assistance to students at Essex County College (ECC). Students are encouraged to come to the Center for information about the transferability of courses and programs taken at ECC. Information about specific transfer and articulation agreements with four-year institutions is readily available. Computer stations are accessible for students who wish to download college applications and other information from transferring institutions. Course equivalency information for most New Jersey colleges can be obtained using the transfer equivalency sheets in the office, downloading the online sheets, or by using the Center's computers to access www.njtransfer.org. The Center also hosts workshops and transfer fairs. For more information, including Transfer Center hours, go to the ECC website at www.essex.edu.

MESA Center

The MESA Center, located in the Center for Technology, provides an opportunity for students majoring in engineering, computer science, math, and science to obtain special academic support to help them achieve success in their chosen field of study. Students who become members of the MESA Center will have a private room to work with other like-minded students as well as tutors, mentors, and counselors to enhance their educational experience. Benefits include academic excellence workshops, book stipends, academic planning sessions, scholarship opportunities, and membership in professional societies.

College Libraries

The Martin Luther King, Jr. Library is located on the main campus in a two-level facility in the center of the megastructure and maintains a collection of more than 100,000 volumes, over 400 periodicals, thousands of microfilms, as well as hundreds of videocassettes, filmstrips, slide/cassettes, and 16mm film programs. The West Essex Campus library has more than 12,000 volumes and a comparable collection of non-print media programs. The holdings of both libraries are accessed via automated online public-access catalog stations. The collection is designed to meet the acade-

mic, informational, cultural, and recreational needs of Essex County College students and the community. Professional librarians are available at both facilities. They teach students the rudiments of general research and the use of special indexes and databases. The main library includes a computer laboratory for teaching students information literacy. There is also a reference library at the College's Police Academy in Cedar Grove.

The Police Academy Library collection is not available for general circulation. The titles are listed on the online catalog and special requests may be made to the library circulation desk.

The many services of the libraries include access to all books and periodicals via open stacks, photocopying, audiovisual hardware for individual use, and CD-ROM periodicals databases. The library is a member of and active participant in ReBL, the Reciprocal Borrowing Libraries of Essex County, INFOLINK, and the Library Cooperative of the Council of Higher Education in Newark (CHEN)

Media Production and Technology Center

The Media Production and Technology Center, commonly referred to as MPT, provides access and support to faculty and students of Essex County College in the uses of instructional media resources. Located on the 3rd level of the megastructure, the MPT Center maintains and distributes an inventory of audiovisual equipment for use on campus. Staff and assistants reserve and schedule equipment for pick-up and delivery in response to faculty and student requests. MPT personnel will also set up and operate equipment as well as provide demonstrations and training in equipment operation. The available audiovisual equipment includes LCD projectors with computers, document cameras, DVD/VHS players/recorders, television monitors, slide and overhead projectors, digital video camcorders and still cameras, public address equipment, and video/audio/CD duplication equipment. Additionally, the Center also oversees the College's satellite receiving station along with the multimedia classrooms and mobile carts, which allow faculty and staff the opportunity to utilize the latest audio/visual equipment in educational technology. The MPT Center is also the home of TV22, Cablevision of Newark's Educational Access Channel. ECC's 24-hour station provides a college/community bulletin board, advertising events and activities along with educational programs. The channel is viewed by more than 65,000 cable subscribers.

Department of Evening and Weekend Services

The Department provides and supports diverse programs and services to enhance the social, cultural, and educational growth of evening and weekend students by promoting learning and development outside of the classroom. These programs are designed to promote interaction among and between students, faculty, and staff. Students are encouraged to participate in a variety of activities, special events, and leadership opportunities.

Special Programs

The Department of Special Programs offers a wide range of opportunities and services to eligible individuals. To be eligible, students must be of low-income, first generation college students (neither mother nor father has a bachelor's degree), veterans, or disabled students. Students who meet the eligibility criteria qualify for tuition-free courses and academic assistance sponsored by the Department of Special Programs. The Special Programs course offerings are limited to the main campus. The following special programs, known as TRIO Programs, are funded by the U.S. Department of Education and the New Jersey Commission on Higher Education. Inquiries regarding course offerings and special support services should be addressed to the Department of Special Programs.

- ***Student Support Services***

Student Support Services provides students with support designed to encourage them to develop their potential through higher education. These services may include tuition-free developmental courses, tutoring, counseling, transfer assistance, and enrichment activities. Students interested in participating should contact the Special Programs Department immediately upon admission.

- ***Talent Search***

Talent Search identifies and counsels eligible pre-college students, from sixth grade and up, regarding post-secondary education opportunities. The services are designed to provide opportunities for participants to explore available educational and vocational options. Nationwide college placement assistance, financial aid application assistance, and tutoring are provided.

- ***College Bound Tech***

College Bound Tech provides pre-college academic and cultural enrichment services to middle school

youth to develop skills necessary for high school and postsecondary graduation. The program courses focus on science, math, and technology preparation as well as career exploration and educational/recreational exposures.

Educational Opportunity Fund Program

The Educational Opportunity Fund (EOF) program provides support services and financial assistance to enhance the educational process of its participants. The EOF program offers counseling and tutorial services, workshops, seminars, cultural activities, and financial grant assistance for educational expenses. To be eligible for program participation, students must be residents of New Jersey for at least 12 months, be enrolled full-time as matriculated students, must demonstrate potential and motivation, and must exhibit a willingness to actively participate in the educational process. Students must also meet financial aid eligibility requirements.

ESSEX COUNTY COLLEGE

DEGREE AND CERTIFICATE PROGRAMS

General Education Requirements

In addition to courses in the majors, all students enrolled in degree programs must complete the College's general education requirements. The general education requirements are designed to expose students to courses of study beyond those that are normally associated with their major subject areas. Faculty and administrators periodically review the general education requirements to ensure that they meet the highest standards of academic excellence. The goals of the general education program are as follows:

1 Students will communicate effectively in both speech and writing.
2 Students will use critical thinking and problem-solving skills in analyzing information gathered through different media and from a variety of sources.
3 Students will recognize, analyze, and assess ethical issues and situations.
4 Students will apply appropriate mathematical and statistical concepts and operations to interpret data and to solve problems.
5 Students will apply the scientific method of inquiry to draw conclusions based on verifiable evidence, use scientific theories and knowledge to understand the natural world, and explain the impact of scientific theories, discoveries, and technological changes on society.
6 Students will use social science theories and concepts to analyze human behavior and social and political institutions.
7 Students will analyze works of the literary, visual, or performing arts.
8 Students will analyze historical events and movements in western or non-western societies and assess their subsequent significance.
9 Students will analyze the implications of commonalities and differences among culturally diverse peoples.
10 Students will demonstrate how to use the concepts of optimum health and fitness to improve and maintain their well-being.

The following is the listing of general education requirements:

	A.A.	A.S.	A.A.S.
Communications[A]	9	6	6
Social Science[B]	6	6	6
Lab Science[C]/Math[D]	10-12[E]	10-12[E]	3-4[F]
Physical Education/Health[G]	2-3	2-3	2-3
Humanities Requirement:	18	9	3
Literature[H]	(6)	(3)	--
History[I]	(6)	(3)	(3)
Fine or Performing Arts[J]	(3)	(3)	--
Free Humanities Elective[K]	(3)	--	--

A ENG 101, ENG 102 (or ENG 105 in selected A.S. or A.A.S. programs) plus (in the A.A. programs) one of the following English courses: ENG 105, ENG 108, ENG 109, ENG 141, ENG 142, ENG 151, ENG 169. Note: English courses not used as a communications elective requirement by students enrolled in A.A. programs may be used to fulfill the Free Humanities Elective requirement.

B One of the following: ANT 101, POL 104, PSY 101, SOC 101; also any 101 or higher course in ANT, POL, PSY, or SOC (or ECO 101 only for students enrolled in the Engineering program).

C For students taking two lab science courses, such courses should be taken in a sequence: BIO 101-102, BIO 103-104, BIO 121-122, CHM 101-102, CHM 103-104, PHY 101-102, PHY 103-104, or PHY 113-114. Note: Certain programs have specific sequences that must be followed; consult the individual program listing section for specific requirements.

D All students must be proficient in MTH 092/093 or its equivalent. Core MTH courses must be MTH 100 or higher. Additionally, if a specific mathematics course is part of a major requirement for a program, students may elect to take higher level courses to fulfill their General Education requirement. Course substitutions are as follows:

Required	Substitution Course
MTH 100	MTH 113 or 119
MTH 109	MTH 113
MTH 113	MTH 119 or 120
MTH 119	MTH 120 or 121
MTH 120	MTH 121 or 122

MTH 114	MTH 121
MTH 213	MTH 122
MTH 119 and 120	MTH 119 and 121
	MTH 120 and 121
	MTH 121 and 122

E Two lab science courses (listed in C, above) and one math course (listed in D, above), totaling 11-12 credits **or** two math courses and one lab science course for 10-12 credits.

F Any lab science course (listed in C, above) or math course (see D, above).

G PHE 119 or HLT 101. Note: Neither PHE 115 nor two one-credit PHE courses will substitute for PHE 119.

H 200-level English literature course(s). Note: At this time no Spanish language literature course fulfills this requirement.

I HST 101-102, HST 111-112, HST 121-122, HST 131-132, HST 214, HST 219-220, HST 221-222, or HST 234-235. Note: Two individual (unrelated) history courses are not acceptable for programs that require a history sequence. Check requirements in the individual program listing section.

J ART 100, ART 101, ART 102, ART 200, MUS 100, MUS 108, MUS 109, or MUS 117. Note: Studio art and music performance courses do not fulfill this requirement.

K The Free Humanities Elective may be a literature course (ENG), a Fine and Performing Arts course (ART, MUS, DRA, DAN), a History (HST), Cinema (CIN), or Philosophy (PHI) course, or ENG 105 (Technical Writing), ENG 108 (Voice and Diction), ENG 169 (Creative Writing), ENG 141 (Journalism I), ENG 142 (Journalism II), or ENG 151 (Mass Communication & Popular Culture). In addition, the following world languages courses fulfill this requirement: ARB 101, ARB 102, FRN 101, FRN 102, FRN 201, FRN 202, ITL 101, ITL 102, SPN 100, SPN 101, SPN 102, SPN 201, SPN 202.

Major Areas of Study: Academic Programs Index

*This index will assist you in picking the right major to achieve your career and educational goals. First, find below the area that interests you under **AREA OF INTEREST**. Next to it, in the column under **MAJOR**, you will find the major(s) or specialization(s) that Essex County College offers in your area of interest. You will find that in some cases the major is broken down into **OPTIONS**. For example, the Human and Social Services major (in the Division of Social Sciences) offers you the opportunity to choose as your specialty one of the following: Alcohol and Substance Abuse Option, Mental Health Option, and Social Work Option. **"M"** next to the major relates to the Main Campus where the program is offered and "W" refers to the West Essex Campus of ECC. As you can see, many of our programs are offered at both campuses. To learn more about a major, go to the page relating to that major that is listed in this index in the column on the far right. For a listing of ECC programs by academic division, see "Overview of Academic Programs."*

AREA OF INTEREST	MAJOR	LOCATION	PAGE
ACCOUNTING	Accounting (A.A.S. Degree)	M W	50
	Accounting (A.S. Degree)	M W	52
ALCOHOLISM/SUBSTANCE ABUSE	Human and Social Services (A.A.S. Degree)	M W	122
	Human and Social Services (Certificate)	M W	124
ARCHITECTURE	Architectural Technology (A.A.S. Degree)	M	56
	Civil Construction Engineering Technology (A.A.S. Degree)	M	88
	Computer-Aided Design Technology (Certificate)	M	92
ART	Art (A.A. Degree)	M W	58
	Digital Media and Electronic Publishing (Certificate)	M	104
BIOLOGY	Biology, Pre-Medicine (A.S. Degree)	M	60
	Biotechnology (A.A.S. Degree)	M	62
	Biotechnology (Certificate)	M	64
BUSINESS	Accounting (A.A.S. Degree)	M W	50
	Accounting (A.S. Degree)	M W	52
	Business Administration (A.A.S. Degree)	M W	66
	Business Administration (A.S. Degree)	M W	68
	Business Administration: Business Administration and Microcomputer Applications Option (A.A.S. Degree)	M W	70
	Business Administration: Financial Services Option (A.A.S. Degree)	M W	72
	Business Administration: Hospitality Management Option (A.A.S. Degree)	M	74
	Business Administration: Office Systems Technology and Management Option (A.A.S. Degree)	M	76
	Business Career Development (Certificate)	M	78
	Computer Information Systems (A.S. Degree)	M	94
	Information Systems Office Operations (Certificate)	M	126
	Internet – Web Page Design Specialist (Certificate)	M	128
	Legal Assistant Studies (A.S. Degree)	M	134
	Legal Assistant (Certificate)	M	132
	Legal Nurse (Certificate)	M	136
	Legal Specialist: Secretarial (Certificate)	M	138
	Microcomputer Systems Applications (A.A.S. Degree)	M	158
	Office Assistant (Certificate)	M	170
	Retail Sales Specialist (Certificate)	M	180
	Word Processing (Certificate)	M	192
CHEMICAL TECHNOLOGY	Chemical Technology (A.A.S. Degree)	M	80
	Chemical Technology (Certificate)	M	82
CHEMISTRY	Chemistry (A.S. Degree)	M	84
	Chemical Technology (A.A.S. Degree)	M	80
CHILDREN/YOUTH	Childhood Development Associate Certification	M	86
	Education (A.A. Degree)	M W	106
CIVIL ENGINEERING	Civil Construction Engineering Technology (A.A.S. Degree)	M	88
	Civil Construction Engineering Technology: Land Surveying Option (A.A.S. Degree)	M	90
COMMERCIAL ART	Internet - Webpage Design Specialist	M	128
COMMUNICATION	Digital Media and Electronic Publishing (Certificate)	M	104
	Liberal Arts: Communications Option (A.A. Degree)	M W	142
	Liberal Arts: Journalism Option (A.A. Degree)	M W	144
	New Media Technology (A.A.S.)	M	164
COMPUTERS	Applied Computer Science (A.S. Degree)	M	54

	Business Administration – Office Systems Technology and Management Option (A.A.S. Degree)	M	76
	Computer-Aided Design Technology (Certificate)	M W	92
	Computer Information Systems (A.S. Degree)	M W	94
	Computer Science (A.S. Degree)	M	96
	Information Systems Office Operations (Certificate)	M	126
	Internet – Web Page Design Specialist (Certificate)	M	128
	Internetworking Techonology (Certificate)	M	130
	Microcomputer Systems Application Program (A.A.S. Degree)	M	158
	Network Technology (Certificate)	M	162
	New Media Technology (A.A.S. Degree)	M	164
	Word Processing (Certificate)	M	192
CONSTRUCTION	Architectural Technology (A.A.S. Degree)	M	56
	Civil Construction Engineering Technology (A.A.S. Degree)	M	88
	Civil Construction Technology – Land Surveying Option (A.A.S. Degree)	M	90
	Engineering (A.S. Degree)	M	112
	Uniform Construction Code Certificate in Building Code Technology (Certificate)*	W	186
	Uniform Construction Code Certificate in Electrical Code Technology (Certificate)*	W	186
	Uniform Construction Code Certificate in Fire Code Technology (Certificate)*	W	188
	Uniform Construction Code Certificate in Plumbing Code Technology (Certificate)*	W	188
CORRECTIONS	Criminal Justice (A.S. Degree)	M W	98
CRIMINAL JUSTICE	Criminal Justice (A.S. Degree)	M W	98
DENTAL	Dental Assisting (Certificate)*	M	100
	Dental Hygiene (A.A.S. Degree)*	M	102
EDUCATION	Childhood Development Associate Certification	M	86
	Education (A.A. Degree)	M W	106
	Music (A.S. Degree)	M	160
	Physical Education (A.S. Degree)	M	172
ELECTRICAL CODE	Uniform Construction Code Certificate in Electrical Code Technology (Certificate)*	W	186
ELECTRONICS	Electronic Engineering Technology (A.A.S. Degree)	M	108
ENERGY	Energy Utility Technology (A.A.S. Degree)	M	110
ENGINEERING	Architectural Technology (A.A.S. Degree)	M	56
	Civil Construction Engineering Technology (A.A.S. Degree)	M	88
	Civil Construction Engineering Technology: Land Surveying Option (A.A.S. Degree)	M	90
	Computer-Aided Design Technology (Certificate)	M	92
	Electronic Engineering Technology (A.A.S. Degree)	M	108
	Energy Utility Technology (A.A.S. Degree)	M	110
	Engineering (A.S. Degree)	M	112
	Geographic Information Systems (Certificate)	M	118
	Manufacturing Engineering Technology (A.A.S. Degree)	M	150
	Manufacturing Engineering Technology – Mechanical Engineering Technology Option (A.A.S. Degree)	M	152
	Technical Studies (A.A.S. Degree)	M W	184
ENGLISH	Liberal Arts: (A.A. Degree)	M W	140
	Liberal Arts: Communications Option (A.A. Degree)	M W	142
	Liberal Arts: Journalism Option (A.A. Degree)	M W	144
ENVIRONMENTAL SCIENCE	Environmental Science (A.A.S. Degree)*	M	114
EYE CARE	Vision Care Technology (A.A.S. Degree)*	M	190
FILM	Liberal Arts: Communications Option (A.A. Degree)	M W	142
FINE ARTS	Art (A.A. Degree)	M	58
	Music or Music Education (A.S. Degree)	M	
FIRE CODE	Uniform Construction Code Certificate in Fire Code Technology (Certificate)*	W	188
FOOD	Business Administration – Hospitality Management Option (A.A.S. Degree)	M	74
GEOGRAPHIC INFORMATION SYSTEMS	Geographic Information Systems Certificate	M	118
HEALTH	Dental Assisting (Certificate)*	M	100
	Dental Hygiene (A.A.S. Degree)*	M	102

	Health Science (A.S. Degree)	M	120
	Human and Social Services (A.A.S. Degree)	M W	122
	Human and Social Services (Certificate)	M W	124
	LPN Certificate (Certificate)*	M	148
	Massage Therapy (Certificate)	M	154
	New Media Technology (A.A.S. Degree)*	M	164
	Nursing (A.A.S. Degree)*	M	166
	Nursing: LPN Articulation Option (A.A.S. Degree)*	M	168
	Physical Education (A.S. Degree)	M	172
	Physical Therapist Assistant (A.A.S. Degree)*	M	174
	Radiography (A.A.S. Degree)*	M	178
	Respiratory Care (A.S. Degree)*	M	
	Vision Care Technology (A.A.S. Degree)*	M	190
HISTORY	Liberal Arts (A.A. Degree)	M W	140
HOSPITALITY SERVICES	Business Administration: Hospitality Management Option (A.A.S. Degree)	M	74
HUMANITIES	Art (A.A. Degree)	M	58
	Digital Media and Electronic Publishing (Certificate)	M	104
	Liberal Arts (A.A. Degree)	M W	140
	Liberal Arts: Communications Option (A.A. Degree)	M W	142
	Liberal Arts: Journalism Option (A.A. Degree)	M W	144
	Liberal Arts: Spanish Language Option (A.A. Degree)	M	146
	Music (A.S. Degree)	M	160
	New Media Technology (A.A.S. Degree)*	M	164
INTERNET	Internet – Web Page Design Specialist (Certificate)	M	128
	Internetworking Technology (Certificate)	M	130
INFORMATION SYSTEMS	Computer Information Systems (A.S. Degree)	M W	94
	Information Systems Office Operations (Certificate)	M	126
JOURNALISM	Liberal Arts: Journalism Option (A.A. Degree)	M W	144
LABORATORY TECHNOLOGIES	Chemical Technology (A.A.S. Degree)	M	80
	Chemical Technology (Certificate)	M	82
	Chemical Technology (A.S. Degree)		
LAND SURVEYING	Civil Construction Engineering Technology – Land Surveying Option (A.A.S. Degree)	M	90
LANGUAGES	Liberal Arts (A.A. Degree)	M W	142
	Liberal Arts: Spanish Language Option (A.A. Degree)	M W	146
LAW ENFORCEMENT	Criminal Justice (A.S. Degree)	M W	98
LEGAL ASSISTANT	Legal Assistant Studies (A.S. Degree)	M	134
	Legal Assistant (Certificate)	M	132
	Legal Nurse (Certificate)	M	136
	Legal Specialist – Secretarial (Certificate)	M	138
LIBERAL ARTS	Liberal Arts (A.A. Degree)	M W	140
	Liberal Arts – Communications Option (A.A. Degree)	M W	142
	Liberal Arts – Journalism Option (A.A. Degree)	M W	144
	Liberal Arts – Spanish Language Option (A.A. Degree)	M W	146
	Music (A.S. Degree)	M	160
	New Media Technology (A.A.S. Degree)	M	164
MANAGEMENT	Business Administration (A.S. Degree)	M W	68
	Business Administration (A.A.S. Degree)	M W	66
	Business Administration: Hospitality Management Option (A.A.S. Degree)	M	74
	Business Administration: Office Systems Technology and Management Option (A.A.S. Degree)	M	76
MANUFACTURING	Manufacturing Engineering Technology (A.A.S. Degree)	M	150
	Manufacturing Engineering Technology: Mechanical Engineering Technology Option (A.A.S. Degree)	M	152
MASSAGE THERAPY	Massage Therapy (Certificate)	M	154
MATHEMATICS	Mathematics (A.S. Degree)	M	156
MEDIA	Digital Media and Electronic Publishing (Certificate)	M	104
	New Media Technology (A.A.S. Degree)*	M	164
MEDICAL-RELATED	Dental Assisting (Certificate)*	M	100
	Dental Hygiene (A.A.S. Degree)*	M	102
	General Science	M	116
	Health Science (A.S. Degree)	M	120
	LPN Certificate (Certificate)*	M	148

	Massage Therapy (Certificate)	M	154
	Nursing (A.A.S. Degree)*	M	166
	Nursing: LPN Articulation (A.A.S. Degree)*	M	148
	Physical Therapist Assistant (A.A.S. Degree)*	M	174
	Radiography (A.A.S. Degree)*	M	176
	Respiratory Care (A.S. Degree)	M	178
	Vision Care Technology (A.A.S. Degree)*	M	190
MENTAL HEALTH	Human and Social Services (A.A.S. Degree)	M W	122
MODERN LANGUAGES	Liberal Arts (A.A. Degree)	M W	140
	Liberal Arts – Spanish Language Option (A.A. Degree)	M W	146
MUSIC	Music (A.S. Degree)	M	160
NETWORK TECHNOLOGY	Internetworking Technology (Certificate)	M	130
	Network Technology (Certificate)	M	162
NURSING	LPN Certificate (Certificate)*	M	148
	Nursing (A.A.S. Degree)*	M	166
	Nursing – LPN Articulation (A.A.S.)*	M	148
OFFICE ADMINISTRATION	Business Administration: Office Systems Technology & Management Option (A.A.S. Degree)	M	76
	Business Administration: Hospitality Management Option (A.A.S. Degree)	M	74
	Legal Specialist – Secretarial (Certificate)	M	138
OFFICE ASSISTANCE	Office Assistant (Certificate)	M	170
	Legal Specialist (Certificate) – Secretarial	M	138
OPTICIANRY	Vision Care Technology (A.A.S. Degree)*	M	190
PARALEGAL	Legal Assistant Studies (A.S. Degree)	M	134
	Legal Assistant (Certificate)	M	132
	Legal Nurse (Certificate)	M	136
	Legal Specialist – Secretarial (Certificate)	M	138
PHARMACY/PHARMACEUTICAL	Chemistry (A.S. Degree)	M	84
PHYSICAL EDUCATION	Physical Education (A.S. Degree)	M	172
PHYSICAL THERAPY	Physical Therapist Assistant (A.A.S. Degree)*	M	174
PHYSICS	Mathematics (A.S. Degree)	M	156
PLUMBING CODE	Uniform Construction Code Certificate in Plumbing Code Technology (Certificate)*	W	188
POLITICAL SCIENCE	Criminal Justice (A.S. Degree)	M W	98
PRE-MEDICAL	Biology, Pre-Medicine (A.S. Degree)	M	60
PSYCHOLOGY	Social Sciences (A.S. Degree)	M W	182
PUBLISHING	Digital Media and Electronic Publishing (Certificate)	M	104
RADIOGRAPHY	Radiography (A.A.S. Degree)*	M	176
RESPIRATORY CARE	Respiratory Care (A.S. Degree)*	M	178
SECRETARIAL	Office Assistant (Certificate)	M	170
	Legal Specialist –Secretarial (Certificate)	M	138
SOCIAL SCIENCES/SOCIAL SERVICES	Criminal Justice (A.S. Degree)	M W	98
	Human and Social Services (A.A.S. Degree)	M W	122
	Human and Social Services (Certificate)	M W	124
	Social Sciences (A.S. Degree)	M W	182
SOCIAL WORK	Human and Social Services (A.A.S. Degree)	M W	122
	Human and Social Services (Certificate)	M W	124
	Social Sciences (A.S. Degree)	M W	182
SOCIOLOGY	Social Sciences (A.S. Degree)	M W	182
SPANISH	Liberal Arts – Spanish Language Option (A.A. Degree)	M W	146
STRUCTURAL DESIGN	Civil Construction Engineering Technology (A.A.S. Degree)	M	88
	Civil Construction Engineering Technology – Land Surveying Option (A.A.S. Degree)	M	90
TECHNICAL GRAPHICS	Computer-Aided Design Technology (Certificate)	M W	94
	Manufacturing Engineering Technology – Mechanical Engineering Technology Option (A.A.S. Degree)	M	152
TELEVISION	Liberal Arts: Communications Option (A.A. Degree)	M W	142
	New Media Technology (A.A.S. Degree)	M	164
UTILITY TECHNICIAN	Energy Utility Techonology (A.A.S. Degree)	M	110
WORD PROCESSING	Word Processing (Certificate)	M	192
WORLDWIDE WEB	Internet Web Page Design Specialist (Certificate)	M	128
	Internetworking Technology (Certificate)	M	130

**Special admissions requirements must be met. For details on the requirements, refer to the page relating to the major.*

Accounting Program

Division of Business — Curriculum Code: 2000
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Accounting?

This program prepares you to collect, analyze, and report financial data and communicate that information to both managers and outside agencies. Graduates can begin their careers as junior accountants, assistant auditors, bookkeepers, or accounting clerks. Such entry-level positions are found in accounting firms, industry, governmental agencies, small businesses, and non-profit organizations.

If I major in Accounting, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program. However, many colleges and universities will apply most or all the courses you have taken toward a bachelor's degree.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this degree?

If you do not need developmental course work and you register for an average of 17 credits each semester, you should be able to complete the degree in two years. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of the underlying framework of accounting concepts and data;
- Use the language of accounting in writing and speaking;
- Prepare accounting documents both manually and using a computer;
- Demonstrate knowledge of budgeting principles;
- Demonstrate knowledge of business law including the Uniform Commercial Code and the law of contracts;
- Use accounting data in making managerial decisions;
- Apply general business concepts in a global context; and
- Prepare Federal and New Jersey individual and corporate tax returns.

Accounting — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(20-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any 101 or higher course in ANT, POL, PSY, or SOC (PSY 102 or SOC 108 recommended)	3

Lab Science/Math (3-4 credits)

MTH 100 or higher or a Lab Science course	3-4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(28 credits)

ACC	101	Principles of Accounting I - Financial	4
ACC	102	Principles of Accounting II - Managerial	4
ACC	201	Intermediate Accounting I	4
ACC	202	Intermediate Accounting II	4
ACC	211	Cost Accounting	4
ACC	231	Federal Taxation I	4
ACC	232	Computerized Accounting	4

ADDITIONAL COURSE REQUIREMENTS:
(18 credits)

BUS	101	Business Organization & Mgt.	3
BUS	141	Business Mathematics	3
BUS	251	Business Law I	3
ECO	101	Prin. of Economics (Macro)	3
ECO	102	Prin. of Economics II (Micro)	3
CIS	135	Microcomputer Spreadsheets	3

Total Credits Required for Degree **66-68**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ACC	101	Principles of Accounting I - Financial	4
BUS	101	Business Organization & Mgt.	3
ENG	101	College Composition I	3
MTH	100	Introductory College Math	4
Social Science requirement			3

Second Semester

ACC	102	Principles of Accounting II - Managerial	4
ACC	232	Computerized Accounting	4
BUS	141	Business Mathematics	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
Social Science requirement			3

Third Semester

ACC	201	Intermediate Accounting I	4
ACC	211	Cost Accounting	4
BUS	251	Business Law I	3
ECO	101	Prin. of Economics (Macro)	3
Physical Education/Health requirement			2-3

Fourth Semester

ACC	202	Intermediate Accounting II	4
ACC	231	Federal Taxation I	4
CIS	135	Microcomputer Spreadsheets	3
ECO	102	Prin. of Economics II (Micro)	3
Humanities/History requirement			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Accounting Program

A Dual Admissions Program with Rutgers-Newark, Kean University, and Seton Hall University

Division of Business — Curriculum Code: 2001

Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Accounting?

This major is best suited for the student who wishes to pursue, upon completing his/her associate degree, a bachelor's degree in Accounting and also work toward becoming a CPA. With advanced degrees/certifications and relevant job experience, you can secure rewarding positions such as accounting manager, internal auditor, financial analyst, tax accountant, or controller in accounting firms, industry, governmental agencies, and non-profit organizations.

If I major in Accounting, can I transfer to an upper-division college or university?

The Associate in Science degree in Accounting prepares you to transfer to upper-division colleges and universities to complete your bachelor's degree. You may choose to participate in the Dual Admissions Program with Rutgers-Newark, Kean University, and Seton Hall University.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this degree?

If you do not need developmental course work and you register for an average of 17 credits each semester, you should be able to complete the degree in two years. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of the underlying framework of accounting concepts and data;
- Demonstrate knowledge of all segments of the accounting cycle and how they interrelate with each other;
- Prepare a set of books and records (both manually and computerized) from the beginning analysis of transactions through the completion of financial statements;
- Prepare Federal and New Jersey State individual and corporate tax returns;
- Prepare sales and payroll tax returns;
- Apply accounting data for managerial applications;
- Apply generally accepted accounting principles as well as principles of corporate accounting;
- Prepare a statement of cash flow;
- Apply the principles of Job Order and Process Cost Accounting;
- Demonstrate knowledge of principles of budgeting;
- Demonstrate knowledge of the basics of business law, including Contracts and the Uniform Commercial Code; and
- Apply general business concepts in a global context.

Accounting — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(34-36 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any 101 or higher level course in Social Science (PSY 102 or SOC 108 recommended)	3

Lab Science/Math (11-12 credits)

Two Math courses: (MTH 100, 113, 114, 119, 120 or 127)	7-8
BIO 101, BIO 102, CHM 103, or PHY 101	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

Any History course	3
Any 200-level English literature course	3
ART 100, 101, 102, or 200 or MUS 100, 108, 109, or 117	3

MAJOR COURSE REQUIREMENTS:
(16 credits)

ACC	101	Prin. of Accounting I - Financial	4
ACC	102	Prin. of Accounting II - Managerial	4
Two Accounting courses at the 200 level or higher			8

ADDITIONAL COURSE REQUIREMENTS:
(15 credits)

BUS	101	Business Organization & Mgt.	3
BUS	251	Business Law I	3
ECO	101	Prin. of Economics (Macro)	3
ECO	102	Prin. of Economics II (Micro)	3
CIS	135	Microcomputer Spreadsheets	3

Total Credits Required for Degree **65-67**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ACC	101	Prin. of Accounting I - Financial	4
BUS	101	Business Organization & Mgt.	3
ENG	101	College Composition I	3
Math requirement			4
Social Science requirement			3

Second Semester

ACC	102	Prin. of Accounting II - Managerial	4
BUS	251	Business Law I	3
ENG	102	College Composition II	3
Math requirement			3-4
Social Science requirement			3

Third Semester

ACC	201	Intermediate Accounting I **or**	
Other 200 level Accounting course			4
CIS	135	Microcomputer Spreadsheets	3
ECO	101	Prin. of Economics (Macro)	3
PHE/HLT requirement			2-3
Lab Science requirement			4

Fourth Semester

ACC	202	Intermediate Accounting II **or**	
Other 200 level Accounting course			4
ECO	102	Prin. of Economics II (Micro)	3
200-level English literature course			3
History requirement			3
Art/Music requirement			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Applied Computer Science Program

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 2303
Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Applied Computer Science?

Students wishing to pursue management or other business oriented positions in the information technology field should consider Applied Computer Science. The computer science courses in the applied program are the same as those in the computer science program, but the science and mathematics requirements are less theoretical. Due to the rapid growth in computer technology, there are abundant employment opportunities for A.S. graduates. Typical entry-level positions include: Technical support specialist, network technician, database application specialist, PC technician and help desk technician. ECC's Applied Computer Science program is designed to prepare students to transfer to a four-year institution as well as to directly enter the Information Technology field.

If I major in Applied Computer Science, can I transfer to an upper-division college or university?

Yes. The Applied Computer Science program prepares students to transfer to institutions offering a B.A. degree in Computer Science, a B.S. degree in a less theoretical computer science program, or a B.S. degree in Information Systems.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental coursework and you attend full time, you can complete the degree in two years. Part-time students can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Design applications programs in an object-oriented language using a variety of dynamic and static data structures;
- Design digital circuitry;
- Utilize multitasking, pre-emptive scheduling, time sharing operating system concepts and associated communications, networking, and security issues;
- Design and implement a relational database with supporting applications;
- Demonstrate multi-user database processing on LANs in client-server systems;
- Demonstrate object-oriented design techniques utilizing encapsulation, abstraction, inheritance, and reusability; and
- Utilize computer software applications used in engineering such as spreadsheets, word processing, and basic programming.

Applied Computer Science — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(35-36 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (12 credits)

MTH	113	College Algebra with Trigonometry	4
PHY	101	College Physics I	4
PHY	102	College Physics II	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

Any History course	3
Any 200-level English literature course	3
ART 100, 101, 102, or 200 **or** MUS 100, 108, 109 or 117	3

MAJOR COURSE REQUIREMENTS:
(24 credits)

CSC	121	Computer Science I	4
CSC	122	Computer Science II	4
CSC	221	Computer Systems & Architecture	4
CSC	225	Data Structures	4
CSC	228	Operating Systems	4
CSC	231	Database Design **or**	
CSC	235	Advanced Object-Oriented Prog.	4

ADDITIONAL COURSE REQUIREMENTS:
(9 credits)

MTH	114	Unified Calculus I	3
MTH	136	Discrete Mathematics	3
MTH	213	Unified Calculus II	3

Total Credits Required for Degree **68-69**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
CSC	121	Computer Science I	4
MTH	113	College Algebra with Trigonometry	4
PHY	101	College Physics I	4
PHE 119 or HLT 101			2-3

Second Semester

ENG	102	College Composition II	3
CSC	122	Computer Science II	4
MTH	114	Unified Calculus I	3
PHY	102	College Physics II	4

Summer

Social Science requirement	3
History requirement	3

Third Semester

CSC	221	Computer Systems & Architecture	4
CSC	225	Data Structures	4
MTH	136	Discrete Mathematics	3
Any 200-level English literature course			3
Social Science requirement			3

Fourth Semester

CSC	228	Operating Systems	4
CSC	231	Database Design **or**	
CSC	235	Advanced Object-Oriented Prog.	4
MTH	213	Unified Calculus II	3
Art/Music requirement			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Architectural Technology Program

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 2301
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Architectural Technology?

The program prepares students for employment in the architectural profession. Instruction is offered in the architectural design studio, and students have the opportunity to express their ideas via conceptual and real-life architectural projects. Jobs in the field are typically found in architectural consulting firms, and in the architectural departments of corporations and state and federal agencies. Job titles range from construction site inspector to CAD operator.

If I major in Architectural Technology, can I transfer to an upper-division college or university?

Yes. The curriculum is designed to prepare students for transfer to an accredited architectural program in order to work toward a bachelor of architecture (B.Arch.) degree. Student transferability and placement in an upper-division college or university will depend on the individual student's academic performance and portfolio of work accumulated throughout the two-year course of study of Architectural Technology. Several area colleges and universities offer architecture programs including nearby New Jersey Institute of Technology. With a five-year B.Arch. degree from an accredited institution, and a three-year work experience, you become eligible to sit for the architect's license exam.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental coursework and you attend full time, you can complete the degree in two years. Part-time students can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of basic construction principles and materials, including concrete, steel and wood;
- Demonstrate understanding of architectural and engineering drawings including the concept of scale and orthographic projection;
- Design various architectural projects including site layout and building features;
- Design a structure utilizing functional as well as aesthetic considerations;
- Demonstrate the ability to conduct architectural presentations for graphics and design pin-ups;
- Demonstrate knowledge of architectural history, especially in ways that it influences architectural design today; and
- Utilize computer software applications such as word processing, spreadsheets, basic programming, mathematical computing, and computer aided design (CAD).

Architectural Technology — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(21-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Math (4 credits)

MTH	113	College Algebra with Trigonometry	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(28 credits)

ARC	101	Architectural Design I	4
ARC	102	Architectural Design II	4
ARC	111	History of Architecture I	3
ARC	112	History of Architecture II	3
ARC	131	Construction Methods I	3
ARC	132	Construction Methods II	3
ARC	201	Architectural Design III	4
ARC	202	Architectural Design IV	4

ADDITIONAL COURSE REQUIREMENTS:
(21 credits)

CSC	112	Computer Prog. for Engr. & Tech.	3
MTH	114	Unified Calculus I	3
ENR	103	Engineering Graphics	2
ENR	105	Applied Computer Aided Design	2
ENR	205	Advanced CAD	3
PHY	101	College Physics I	4
PHY	102	College Physics II	4

Total Credits Required for Degree **70-71**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
ARC	101	Architectural Design I	4
ARC	111	History of Architecture I	3
ENR	103	Engineering Graphics	2
MTH	113	College Algebra with Trigonometry	4

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
ARC	102	Architectural Design II	4
ARC	112	History of Architecture II	3
ENR	105	Applied Computer Aided Design	2
MTH	114	Unified Calculus I	3

Summer

Social Science requirement	3
Humanities requirement	3

Third Semester

ARC	131	Construction Methods I	3
ARC	201	Architectural Design III	4
CSC	112	Computer Prog. for Engr. & Tech.	3
PHY	101	College Physics I	4
Physical Education/Health requirement			2-3

Fourth Semester

ARC	132	Construction Methods II	3
ARC	202	Architectural Design IV	4
ENR	205	Advanced CAD	3
PHY	102	College Physics II	4
Social Science requirement			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Art Program

Division of Humanities — Curriculum Code: 0401
Will Earn Upon Program Completion: Associate in Arts (A.A.) Degree

Why major in Art?

ECC's Art majors take courses that ensure a strong technical and artistic foundation. The curriculum parallels the first two years of a baccalaureate degree (B. A.) in art at a four-year college or university and will also serve as preparation for careers such as freelance artist, graphic designer, interior decorator, advertising designer, museum assistant, curator, or teacher.

If I major in Art, can I transfer to an upper-division college or university?

Under the articulation and joint enrollment agreements with area institutions, all the college credits earned at ECC will be accepted by these four-year institutions upon transfer. ECC has such agreements with the institutions our students most frequently attend: NJIT, Rutgers, New Jersey City University, Kean University, Montclair State University, Bloomfield College, Fairleigh Dickinson University and others. ECC Art graduates have also transferred to and completed baccalaureate degrees at Pratt Institute, the Parsons School of Design, the Fashion Institute of Technology, and the School of Visual Arts.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking the core curriculum courses in your major. The Art studio courses may generally be taken at any time.

How long will it take for me to complete this degree?

If you do not need developmental course work and you register for an average of 15-16 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the two summer sessions.

Where should I direct specific questions about this program?

Call the Division at (973) 877-3319/3320.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of the different artistic perspectives which come from a study of and interaction with a culturally diverse population;
- Demonstrate understanding of the influence of religion, geography, politics, economics, and social issues on the creation of art;
- Recognize seminal works of art in the major and minor arts from prehistoric times to the modern era;
- Demonstrate knowledge of the development of techniques, media, tools and styles in art throughout the world's cultures;
- Demonstrate in-depth knowledge, via a formal research report, of a particular artist, period, style, work, or artistic trend;
- Develop facility in utilizing a variety of drawing and painting materials and styles;
- Create compositions in drawing, painting, and design that are expressive and attractive by utilizing the elements of design;
- Solve two-dimensional design problems;
- Create solutions to three-dimensional design assignments; and
- Demonstrate understanding of the influence of art on the daily lives of people.

Art — A.A. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(45-48 credits)

Communications (9 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3
ENG	105, 108, 109, 141, 142, 151 or 169		3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (10-12 credits)

A Lab Science sequence and a Math course (100 or higher) **or** two Math courses (100 or higher) and a Lab Science course:

MTH (100 level or higher)	3-8
BIO 101-102, 103-104 or 121-122; CHM 101-102 or 103-104; PHY 101-102 or 103-104, or 113-114	4-8

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (18 credits)

Any two 200-level English literature courses	6
Any History sequence	6
ART 101, 102, or 200	3
ART 161, 167, or 168	3

MAJOR COURSE REQUIREMENTS:
(18 credits)

ART	103	Fundamentals of Art I	3
ART	104	Fundamentals of Art II	3
ART	107	Drawing I	3
ART	111	Fundamentals of Painting I	3
ART	205	Two-Dimensional Design	3
ART	206	Three-Dimensional Design	3

Total Credits Required for Degree **63-66**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ART	101	Art History I **or**	
ART	102	Art History II **or**	
ART	200	African-American Art	3
ART	103	Fundamentals of Art I	3
ENG	101	College Composition I	3
History requirement			3
Social Science requirement			3
PHE	119	Concepts in Physical Education	2

Second Semester

ART	104	Fundamentals of Art II	3
ENG	102	College Composition II	3
History requirement			3
Math/Lab Science requirement			4
SOC	101	Introduction to Sociology	3

Third Semester

ART	107	Drawing I	3
ART	205	Two-Dimensional Design	3
Math/Lab Science requirement			4
ENG	109	Effective Speech	3
ENG	205	The Western Literary Tradition	3

Fourth Semester

ART	111	Fundamentals of Painting I	3
ART 161 or ART 167 or ART 168 (Computer Graphic courses)			3
ART	206	Three-Dimensional Design	3
Math/Lab Science requirement			4
ENG	215	Modern Literary Masterpieces	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Biology/Pre-Medicine Program

Division of Biology & Chemistry — Curriculum Code: 0601
Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Biology/Pre-Medicine?

Biology is the primary life science from which students can enter specific fields of study as diverse as molecular biology, forestry, pathophysiology, neuroanatomy, and parasitology. Biology also provides the foundation for students who wish to become physicians, dentists, or other such medical professionals. The curriculum is equivalent to the first two years of a baccalaureate program in Biology. Emphasis is placed on scientific method and critical analysis that will enable you to be a contributor to any scientific or medical team.

If I major in Biology/Pre-Medicine, can I transfer to an upper-division college or university?

The Associate in Science degree in Biology/Pre-Medicine prepares you for transfer to upper-division colleges and universities to pursue a bachelor's degree. ECC's transfer/articulation agreements with area four-year institutions provide smooth transfer for our A.S. graduates.

Are there any requirements I must satisfy before I start taking courses in my major?

The basic skills competency test is a requirement for all majors. Major course work can begin once you have completed all developmental courses. In addition, if you are at the final level of remediation in mathematics and English, you can take either BIO 100 or CHM 100. While neither of these courses count toward graduation in this major, they provide an introduction to basic biology and chemistry that will prepare you for this program.

How long will it take for me to complete this degree?

If you do not need developmental courses and you take an average of 17 credits per semester, you should be able to complete the program in two years.

Where should I direct specific questions about this program?

Call the Division at (973) 877-3430.

Upon completion of this program, graduates will be able to:

- Utilize critical thinking and problem-solving skills, including the scientific method and methods of scientific conversion;
- Demonstrate a mastery of the fundamental concepts of inorganic chemistry, organic chemistry and biochemistry;
- Demonstrate a mastery of the fundamental concepts of biology at the genetic, molecular, cellular, tissue, organ, and organismal level;
- Perform scientific investigations using proper scientific and laboratory safety protocols; and
- Successfully transfer to a four-year undergraduate degree program in Biology.

Biology/Pre-Medicine — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(35-36 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (12 credits)

BIO	103	General Biology I	4
BIO	104	General Biology II	4
MTH	119	Pre-Calculus I	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

Any History course	3
Any 200-level English literature course (ENG 205, 215 or 223 suggested)	3
ART 100, 101, 102, or 200 **or** MUS 100, 108, 109, or 117	3

MAJOR COURSE REQUIREMENTS:
(28 credits)

CHM	103	General Chemistry I	4
CHM	104	General Chemistry II	4
MTH	120	Pre-Calculus II	4
PHY	101	College Physics I and	4
PHY	102	College Physics II	4
		Or	
CHM	203	Organic Chemistry I and	4
CHM	204	Organic Chemistry II	4

Two Biology electives selected from the following courses:

BIO	211	Microbiology	4
BIO	220	Environmental Science	4
BIO	228	Molecular Biology	4
BIO	237	Genetics	4

Note: The sequence BIO 121-122 (8 cr.) may be substituted for one Biology elective.

Total Credits Required for Degree **63-64**

The minimum passing grade for all courses designated BIO, CHM, MTH or PHY is "C." If you earn a grade below "C," you need to repeat that course.

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

BIO	103	General Biology I	4
ENG	101	College Composition I	3
CHM	103	General Chemistry I	4
MTH	119	Pre-Calculus I	4
History requirement			3

Second Semester

BIO	104	General Biology II	4
CHM	104	General Chemistry II	4
ENG	102	College Composition II	3
MTH	120	Pre-Calculus II	4
Social Science requirement			3

Third Semester

CHM	203	Organic Chemistry I **or**	
PHY	101	College Physics I	4
Biology elective			4
Social Science requirement			3
Any 200-level English literature course			3

Fourth Semester

CHM	204	Organic Chemistry II **or**	
PHY	102	College Physics II	4
Biology elective			4
Art/Music requirement			3
PHE 119 or HLT 101			2-3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Biotechnology A.A.S. Degree Program

Division of Biology & Chemistry
Curriculum Code: 2311
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Biotechnology?

This major prepares you for a career in the field of Biotechnology as a laboratory technician. With experience you may find positions in research, production, and development.

If I major in Biotechnology, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program. However, other colleges and universities will apply some or all of the courses you have taken towards a bachelor's degree, depending upon their program requirements.

Are there any requirements I must satisfy before I start taking courses in my major?

The Basic Skills Test is a requirement for all majors. Remedial and/or college level courses can be taken while completing some General Education coursework.

How long will it take for me to complete this degree?

If you do not need remedial courses and you take 17 credits per semester, you should be able to complete the program in two years. The time could potentially be shortened by taking courses in the Summer session.

Where should I direct specific questions about this program?

Call the Division at (973) 877-3430.

Upon completion of this program, graduates will be able to:

- Demonstrate mastery of the fundamental concepts of biology, chemistry, and the scientific method;
- Demonstrate a mastery of the fundamental concepts and current applications of cellular and molecular biology;
- Perform qualitative, quantitative and instrumental analysis of macromolecular samples using established molecular techniques and instrumentation;
- Use the computer for collecting and assessing laboratory and field data and for preparing reports;
- Maintain a laboratory notebook according to current Biotechnology industry standards documenting lab procedures, problem solving, data collection, and data analysis;
- Critically assess the ethical, social, legal and economic implications of current biotechnology research;
- Assess personal compliance with current lab safety procedures and OSHA guidelines.

Biotechnology — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(21-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	3
ENG	105	Technical Writing	

Social Science (6 credits)

ANT 101, PSY 101, SOC 101 or POL 104,	3
Any 101 or higher level ANT, CJI, EDU, POL, PSY, or SOC course	3

Lab Science/Math (12 credits)

BIO	103	General Biology I	4
BIO	104	General Biology II	4
MTH	119	Pre-Calculus I	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

HIS 101, 102, 111, 112, 131, or 132	3

MAJOR COURSE REQUIREMENTS:
(32 credits)

BIO	228	Molecular Biology	4
BIO	229	Biotechnology Laboratory	4
BIO	230	Biotechnology Internship	4
CHM	103	General Chemistry I	4
CHM	104	General Chemistry II	4
MTH	120	Pre-Calculus II	4

ADDITIONAL COURSE REQUIREMENTS:
(11 credits)

CIS	137	Microcomputer Databases	3
Two Science electives			8

Electives must be selected from the following courses:

BIO	211	Microbiology	4
BIO	220	Environmental Science	4
BIO	237	Genetics	4
CHM	203	Organic Chemistry I	4
CHM	204	Organic Chemistry II	4
PHY	101	Physics I	4

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

BIO	103	General Biology I	4
CHM	103	General Chemistry I	4
ENG	101	College Composition I	3
MTH	119	Pre-Calculus I	4

Second Semester

BIO	104	General Biology II	4
CHM	104	General Chemistry II	4
ENG	102	College Composition II	3
MTH	120	Pre-Calculus II	4

Third Semester

Science Elective			4
BIO	228	Molecular Biology	4
BIO	229	Biotechnology Laboratory	4
PHE 119 or HLT 101			2-3
Social Science requirement			3

Fourth Semester

BIO	230	Biotechnology Internship	4
Science Elective			4
CIS	137	Microcomputer Spreadsheet	3
Social Science Requirement			3
History Requirement			3

Total Credits Required for Degree **64-65**

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Biotechnology Certificate Program

Division of Biology & Chemistry
Curriculum Code: 3311
Will Earn Upon Program Completion: Certificate

Why major in Biotechnology?

This major prepares you for a career in the field of Biotechnology as a laboratory technician. With experience you may find positions in research, production, and development.

If I major in Biotechnology, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program. However, other colleges and universities will apply some or all of the courses you have taken towards a bachelor's degree, depending upon their program requirements.

Are there any requirements I must satisfy before I start taking courses in my major?

The Basic Skills Test is a requirement for all majors. Remedial and/or college level courses can be taken while completing some General Education coursework.

How long will it take for me to complete this degree?

If you do not need remedial courses and you take 18 credits per semester, you should be able to complete the program in one year.

Where should I direct specific questions about this program?

Call the Division at (973) 877-3430.

Upon completion of this program, graduates will be able to:

- Demonstrate mastery of the fundamental concepts of biology, chemistry, and the scientific method;
- Demonstrate a mastery of the fundamental concepts and current applications of cellular and molecular biology;
- Perform qualitative, quantitative, and instrumental analysis of macromolecular samples using established molecular techniques and instrumentation;
- Use the computer for collecting and assessing laboratory and field data and for preparing reports;
- Maintain a laboratory notebook according to current Biotechnology industry standards documenting lab procedures, problem solving, data collection, and data analysis;
- Critically assess the ethical, social, legal and economic implications of current biotechnology research;
- Assess personal compliance with current lab safety procedures and OSHA guidelines.

Biotechnology — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(3 credits)

Communications (3 credits)

ENG	101	College Composition I	3

MAJOR COURSE REQUIREMENTS:
(24 credits)

BIO	103	General Biology I	4
BIO	228	Molecular Biology	4
BIO	229	Biotechnology Laboratory	4
CHM	103	General Chemistry I	4
CHM	104	General Chemistry II	4
MTH	113	College Algebra with Trig.	4

ADDITIONAL COURSE REQUIREMENTS:
(4 credits)

BIO	230	Biotechnology Internship	4

RECOMMENDED SEQUENCE OF COURSES:

First Semester

BIO	103	General Biology I	4
CHM	103	General Chemistry I	4
ENG	101	College Composition I	3
MTH	113	College Algebra with Trig.	4

Second Semester

BIO	228	Molecular Biology	4
BIO	229	Biotechnology Laboratory	4
BIO	230	Biotechnology Internship	4
CHM	104	General Chemistry II	4

Total Credits Required for Degree **31**

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Business Administration Program

Division of Business — Curriculum Code: 2006
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Business Administration?

This program is designed to prepare students for entry-level positions in sales, marketing, administration, or management. It provides you sufficient knowledge of the business world to enable you to function effectively within large and small corporations, and also in non-profit organizations and government agencies.

If I major in Business Administration, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program. Although this program is not designed for transfer purposes, many colleges and universities will apply most or all the courses you have taken toward a bachelor's degree. Other A.A.S. degree options available at Essex for Business Administration majors are: Business Administration and Microcomputers, Hospitality Management, and Office Systems Technology and Management.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this degree?

If you do not need developmental courses and you register for an average of 16 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Business Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of the world of business;
- Communicate in the language of business;
- Use economic concepts in business to solve business problems;
- Use knowledge of the fundamentals of planning, organizing, and management to make business decisions;
- Apply motivational theories in employee management;
- Apply general business concepts in a global context;
- Sell ideas and products effectively;
- Conduct both quantitative and qualitative analysis.

Business Administration — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(20-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any 101 or higher course in ANT, POL, PSY, or SOC	3

Lab Science/Math (3-4 credits)

MTH 100 or higher or a Lab Science course	3-4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(21 credits)

BUS	101	Business Organization & Mgt.	3
BUS	141	Business Mathematics	3
BUS	201	Principles of Management	3
BUS	204	Introd. to Org. Behavior in Business	3
Three courses in Business Administration at the 200 level or any three Hospitality Management courses			9

ADDITIONAL COURSE REQUIREMENTS:
(20 credits)

ACC	101	Prin. of Accounting I - Financial	4
ACC	102	Prin. of Accounting II - Managerial	4
ECO	101	Prin. of Economics (Macro)	3
ECO	102	Prin. of Economics II (Micro)	3
CIS 131, 135, 137, or 139			3
Any BUS, CEE, or CIS course			3

Total Credits Required for Degree **61-63**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

BUS	101	Business Organization & Mgt.	3
ACC	101	Prin. of Accounting I - Financial	4
Math/Lab Science requirement			3-4
ENG	101	College Composition I	3
Social Science requirement			3

Second Semester

ACC	102	Prin. of Accounting II - Managerial	4
BUS	201	Principles of Management	3
ECO	101	Prin. of Economics (Macro)	3
Social Science requirement			3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Third Semester

Physical Education/Health requirement			2-3
BUS	204	Intro. to Org. Behavior in Business	3
CIS 131, 135, 137, or 139			3
BUS	141	Business Mathematics	3
ECO	102	Prin. of Economics II (Micro)	3

Fourth Semester

BUS, CIS, or CEE Elective	3
BUS requirement	3
BUS requirement	3
BUS requirement	3
Humanities requirement	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Business Administration Program

A Dual Admissions Program with Rutgers-Newark, NJIT, Montclair State University, Kean University, College of Insurance, and Seton Hall University

Division of Business — Curriculum Code: 2005

Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Business Administration?

This associate degree program builds your knowledge of general business principles and provides you with management skills that are applicable in a wide variety of settings. The major is best suited for the student who wishes to pursue, upon completing his/her associate degree, a bachelor's degree in Business Administration. With advanced degrees/certifications and relevant job experience, you can secure rewarding leadership positions as managers within industry, governmental agencies, and non-profit organizations.

If I major in Business Administration, can I transfer to an upper-division college or university?

This program prepares you to transfer to an upper-division college or university to complete your bachelor's degree. You may choose to participate in the dual admissions program with Rutgers-Newark, College of Insurance, NJIT, Montclair State University, Kean University, or Seton Hall University. These admissions agreements provide guaranteed admission with junior status to qualified students. Consult with ECC's transfer/articulation coordinator in the Career Resource Center to review specific requirements.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this degree?

If you do not need developmental courses and you register for an average of 16 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Business Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of management theories and principles;
- Communicate effectively in speech and writing using the language of business;
- Demonstrate knowledge of the American economic system;
- Use knowledge of the fundamentals of planning, organizing, and management in decision-making;
- Motivate employees to fulfill the goals of their organization in an efficient and effective manner;
- Utilize management and marketing principles to accomplish organizational objectives; and
- Apply general business concepts in a global context.

Business Administration — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(33-36 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY or SOC course (PSY 102 or SOC 108 recommended)	3

Lab Science/Math (10-12 credits)

A Lab Science sequence and a Math course (100 or higher) or two Math courses (100 or higher) and a Lab Science course.
MTH (100 level or higher)
BIO 101-102, 103-104, or 121-122; CHM 101-102 or 103-104; or PHY 101-102, 103-104 or 113-114 4-8

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

Any History course	3
Any 200-level English literature course	3
ART 100, 101, 102, or 200, **or** MUS 100, 108, 109, or 117	3

MAJOR COURSE REQUIREMENTS:
(15 credits)

BUS	101	Business Organization & Mgt	3
BUS	201	Principles of Management	3
Three other 200 level business courses			9

ADDITIONAL COURSE REQUIREMENTS:
(17 credits)

ACC	101	Prin. of Accounting I - Financial	4
ACC	102	Prin. of Accounting II - Managerial	4
ECO	101	Prin. of Economics (Macro)	3
ECO	102	Prin. of Economics II (Micro)	3
CIS 131, 135, 137, or 139			3

Total Credits Required for Degree **65-68**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ACC	101	Prin. of Accounting I - Financial	4
BUS	101	Business Organization & Mgt.	3
ENG	101	College Composition I	3
Math requirement			3-4
Social Science requirement			3

Second Semester

ACC	102	Prin. of Accounting II - Managerial	4
BUS	201	Principles of Management	3
ENG	102	College Composition II	3
Math/Lab Science requirement			3-4
Social Science requirement			3

Third Semester

BUS requirement (200-level BUS course)	3
CIS 131, 135, 137, or 139	3
ECO 101 Prin. of Economics (Macro)	3
Physical Education/Health requirement	2-3
Lab Science requirement	4

Fourth Semester

BUS requirement (Two 200-level BUS courses)	6
ECO 102 Prin. of Economics II (Micro)	3
English literature requirement (200-level course)	3
History requirement	3
Art or Music requirement	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Business Administration:
Business Administration and Microcomputer Application Option

Division of Business — Curriculum Code: 200M
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Business Administration and Microcomputer Applications Option?

This program prepares you for careers in the fast paced world of microcomputer applications. It gives you the business and management skills needed to succeed in a variety of business settings. The program prepares students for positions such as office manager, information specialist, administrative specialist, and other technical support and management positions.

If I major in Business Administration and Microcomputer Applications, can I transfer to an upper-division college or university?

The major is designed to prepare students to gain entry to technical support and management positions. While the program is not designed for transfer to a baccalaureate program, many colleges and universities will apply most or all the courses you have taken toward a bachelor's degree.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take me to complete this degree?

If you do not need developmental courses and you register for an average of 16 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Business Division at
(973) 877-3222.

Upon completion of this program, graduates will be able to:

- Use personal computers for word processing, spreadsheet applications, and professional presentations;
- Demonstrate knowledge of the world of business;
- Use the language of business in writing and speaking;
- Select and apply software tolls for business solutions;
- Perform simple hardware tasks;
- Provide support and training to other computer users;
- Conduct research on the Internet;
- Sell ideas and products effectively.

Business Administration: Business Administration and Microcomputer Applications Option
A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(20-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II or	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (3-4 credits)

MTH 100 or higher or a Lab Science course	3 -4

Physical Education (2 -3 credits)

PHE 119 or HLT 101	2 -3

Humanities (3 credits)

Any HST course	3

MAJOR COURSE REQUIREMENTS
(28 credits)

BUS	101	Business Organization & Mgt	3
BUS	211	Principles of Marketing	3
CIS	131	Microcomputers in Business	3
CIS	135	Microcomputer Spreadsheets	3
CIS	137	Microcomputer Databases	3
CIS	235	Adv. Microcomputer Spreadsheets	3
CIS	237	Adv. Microcomputer Databases	3
OST	250	Word/Information Processing Applications I	3
OST	251	Word/Information Processing Applications II	3

ADDITIONAL COURSE REQUIREMENTS
(16 Credits)

ACC	101	Principles Of Accounting	4
BUS	213	Principles of Selling	3
ECO	101	Principles of Macroeconomics	3
Two courses from the following:			
CIS	114	Visual Basic	3
CEE	298	Co-Op Exper. Business	3
FIN	201	Money and Banking	3

Total Credits required for Degree **65 -67**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

BUS	101	Business Organization & Mgt.	3
ENG	101	College Composition I	3
CIS	131	Microcomputers in Business	3
MTH	100	Introductory College Math	4
Social Science Requirement (SOC 108 recommended)			3

Second Semester

ACC	101	Principles of Accounting I – Financial	4
Social Science Requirement (Soc 207 recommended)			3
CIS	135	Microcomputer Spreadsheets	3
CIS	235	Adv. Microcomputer Spreadsheets	3
ENG	102	College Composition II or	
ENG	105	Technical Writing	3

Third Semester

CIS	137	Microcomputer Databases	3
CIS	237	Adv. Microcomputer Databases	3
OST	250	Word/Information Processing Applications I	4
ECO	101	Principles of Macroeconomics	3
BUS	211	Principles of Marketing	3
HLT/ PHE requirement			2-3

Fourth Semester

OST	251	Word/Information Processing Applications II	3
BUS	213	Principles of Selling	3
HST requirement			3
Select two from: CEE 298, CIS 114, FIN 201			6

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Description section of the catalog.

Business Administration: Financial Services Option

Division of Business — Curriculum Code: 20FN
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Financial Services?

This program prepares you to pursue careers in banks, insurance companies, brokerage houses, and other financial institutions. You will acquire knowledge that will enable you to work as a cashier, junior loan officer, assistant credit manager, and assistant back office manager. You will gain sufficient knowledge of the business world to enable you to function effectively within large and small corporations and also in non-profit organizations and government agencies.

If I major in Financial Services, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program. However, many colleges and universities will apply most or all of the courses you have taken toward a bachelor's degree.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this degree?

If you do not need developmental coursework and you register for an average of 16 credits each semester, you can complete the degree in one year. You can shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Business Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Use the terms and concepts of finance in oral and written communications;
- Demonstrate knowledge of management theory and practice;
- Demonstrate knowledge of the American economic system;
- Use economic concepts in business to solve business problems;
- Apply general business concepts in a global context;
- Conduct both quantitative and qualitative analysis;
- Sell ideas and products effectively;
- Demonstrate knowledge of the structure of financial markets and financial institutions;
- Use the terms of monetary and fiscal policy in a business context.

Business Administration: Financial Services
A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(20-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, PSY 101, SOC 101, or POL 104	3
Any 101 or higher level Social Science Course	3

Lab Science/Math (3-4 credits)

MTH 100 or higher	3-4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(21 credits)

ECO	101	Prin. of Economics I (Macro)	3
ECO	102	Prin. of Economics II (Micro)	3
FIN	101	Introduction to Finance	3
FIN	201	Money and Banking	3
FIN	207	Principles of Investments	3
FIN	209	International Finance	3
FIN	211	Finance Seminar/Experiential and Directed Study	3

ADDITIONAL COURSE REQUIREMENTS:
(23 credits)

ACC	101	Prin. of ACC I - Financial	4
ACC	102	Prin. of ACC II - Managerial	4
BUS	101	Business Org. and Mgmt.	3
BUS	201	Principles of Management	3
BUS	211	Principles of Marketing	3
BUS	251	Business Law I	3
CIS 131, 135, 137, or 139			3

Total Credits Required for Degree **64-66**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
MTH	100	Introductry College Math	3-4
BUS	101	Bus. Org. & Mgmt.	3
ACC	101	Principles of Accounting I Financial	4
Social Science Requirement			3

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
BUS	201	Principles of Management	3
ACC	102	Principles of Accounting II - Managerial	4
Social Science Requirement			3
ECO	101	Principles of Economics (Macro)	3

Third Semester

ECO	102	Principles of Economics (Micro)	3
BUS	211	Principles of Marketing	3
CIS Requirement			3
FIN	101	Introduction to Finance	3
Physical Education/Health Requirement			2-3
Bus	251	Business Law I	3

Fourth Semester

FIN	201	Money and Banking	3
FIN	207	Principles of Investments	3
FIN	209	International Finance	3
FIN	211	Finance Seminar/Experiential and Directed Study	3
History Requirement			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Business Administration: Hospitality Management Option

Division of Business — Curriculum Code: 200H
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Hospitality Management?

This program prepares you to pursue careers in resorts, hotels, motels, and other lodging and hospitality properties. Students will acquire knowledge that will enable them to work as unit managers, assistant managers, or food and beverage managers. They will also be able to advance to positions such as front office manager or sales and marketing manager.

If I major in Hospitality Management, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program. However, many colleges and universities will apply most or all the courses you have taken toward a bachelor's degree.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this degree?

If you do not need developmental courses and you register for an average of 16 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Business Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Use the terms and concepts of the hospitality industry in oral and written communications;
- Demonstrate knowledge of management theory and practice;
- Demonstrate knowledge of the skills required for various positions in the industry;
- Coordinate and facilitate the many tasks associated with running the front office of a hotel or motel;
- Apply the basic principles of food and beverage management and merchandising;
- Plan and implement a housekeeping and laundry department for a hotel or motel;
- Demonstrate understanding of the laws pertaining to the operation of hotels and motels;
- Prepare basic accounting documents related to the front office of a hotel or motel; and
- Adhere to globally accepted standards in leadership and management.

Business Administration: Hospitality Management Option
A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(20-21 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (3-4 credits)

MTH 100 or higher or a Lab Science course	3-4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(21 credits)

BUS	101	Business Org. and Mgmt.	3
BUS	141	Business Mathematics	3
HMM	103	Intro. To Hospitality Mgmt.	3
HMM	226	Supervisory Development In Hospitality Management	3
HMM	261	Hospitality Housing Management	3
HMM	263	Hospitality Mgmt. Front Office Proc.	3
HMM	264	Food & Beverage Management	3

ADDITIONAL COURSE REQUIREMENTS:
(20 credits)

ECO	101	Prin. of Economics (Macro)	3
ACC	101	Prin. of Accounting I - Financial	4
ACC	102	Prin. of Accounting II - Managerial	4
CIS 131, 135, 137, or 139			3
HMM	256	Hospitality Management Law (strongly recommended) or a 200-level BUS course or a CIS course.	3
Free elective (CEE 298 Cooperative Education Experience I recommended)			3

Total Credits Required for Degree **61-63**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

BUS	101	Business Organization & Mgt.	3
ACC	101	Prin. of Accounting I - Financial	4
ENG	101	College Composition I	3
Lab Science/Math requirement			3-4
Social Science requirement			3

Second Semester

BUS	141	Business Mathematics	3
HMM	103	Intro. To Hospitality Mgmt.	3
ACC	102	Prin. of Accounting II - Managerial	4
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
Social Science requirement			3

Third Semester

HMM	226	Super. Dev. In Hospitality Mgmt.	3
HMM	261	Hospitality Housing Management	3
ECO	101	Prin. of Economics (Macro)	3
CIS requirement			3
Physical Education/Health requirement			2-3

Fourth Semester

HMM	263	Hospitality Mgmt. Front Office Proc.	3
HMM	264	Food & Beverage Management	3
HMM	256	Hospitality Management Law **or** a 200-level BUS course or a CIS course	3
History requirement			3
Free elective			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Business Administration: Office Systems Technology & Management Option

Division of Business — Curriculum Code: 200S
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Office Systems Technology & Management?

Technological advances are changing the office environment and office personnel need to keep pace to retain a professional edge. This program develops technical and organizational skills and provides a broad background in office management, business, communication, computer technology, and interpersonal skills. The program prepares students for a wide variety of positions such as administrative assistant, administrative office manager, administrative receptionist, desktop publishing graphics specialist, executive assistant, office specialist, office coordinator, information specialist, administrative technology specialist, and related administrative support positions.

If I major in Office Systems Technology & Management, can I transfer to an upper-division college or university?

The major is designed to prepare students to gain entry to administrative support positions. While the program is not designed for transfer to a baccalaureate program, many colleges and universities will apply most or all the courses you have taken toward a bachelor's degree.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this degree?

If you do not need developmental courses and you register for an average of 16 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Business Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Competently undertake a variety of administrative and clerical responsibilities;
- Perform and coordinate an office's administrative activities and ensure that information is disseminated to staff and customers/clients through the use of traditional letters and memoranda, electronic mail, and interoffice mail;
- Demonstrate dependability, initiative, adherence to confidentiality requirements, enthusiasm for new tasks, and interest in keeping pace with new developments in the field;
- Use personal computers for word processing, spreadsheet applications, and professional presentations;
- Prepare a variety of business correspondence, handle travel arrangements, schedule appointments, and work with customers/clients;
- Conduct research on the Internet;
- Operate a variety of office equipment such as facsimile machines, photocopiers, and telephone systems;
- Organize and maintain paper and electronic files;
- Manage time effectively and establish priorities;
- Produce professional copy using correct document formatting procedures;
- Keyboard with accuracy and at acceptable speeds; and
- Quickly and effectively proofread a variety of business correspondence.

Business Administration: Office Systems Technology & Management Option — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(20-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (3-4 credits)

MTH 100 or higher or a Lab Science course	3-4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(17 credits)

OST	106	Keyboarding and Formatting I	4
OST	121	Business Communication	3
OST	210	Office Systems Management	3
OST	250	Word/Information Processing Applications I	4
OST	251	Word/Information Processing Applications II **or**	
OST	290	OST Internship	3

ADDITIONAL COURSE REQUIREMENTS:
(23 credits)

BUS	101	Business Organization & Mgt.	3
BUS	141	Business Math	3
ACC	101	Prin. of Accounting I - Financial	4
ACC	102	Prin. of Accounting II - Managerial	4
CIS	135	Microcomputer Spreadsheets	3
CIS	136	Desktop Publish. for IBM Compatibles	3
BUS, CIS, or OST Elective			3
(OST 107 Recommended)			

Total Credits Required for Degree **60-62**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

OST	106	Keyboarding and Formatting I	4
OST	121	Business Communication	3
BUS	101	Business Organization & Mgt.	3
ENG	101	College Composition I	3
Social Science requirement			3

Second Semester

OST	210	Office Systems Management	3
BUS	141	Business Math	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
Humanities requirement			3
Social Science requirement			3

Third Semester

ACC	101	Prin. of Accounting I - Financial	4
CIS	135	Microcomputer Spreadsheets	3
OST	250	Word/Information Processing Applications I	4
Lab Science/Math requirement			3-4
HLT/PHE requirement			2-3

Fourth Semester

ACC	102	Prin. of Accounting II - Managerial	4
BUS, CIS, or OST Elective			3
CIS	136	Desktop Publish. for IBM Compatibles	3
OST	251	Word/Information Processing Applications II **or**	
OST	290	OST Internship	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Business Career Development Program

Division of Business — Curriculum Code: 3001
Will Earn Upon Program Completion: Certificate in Business Career Development

Why major in Business Career Development?

This program is designed to develop or refine technical and professional skills in business. The program is especially appropriate for employees who wish to upgrade job-related skills for the sake of career advancement. It is also designed to offer preparation for students seeking entry-level jobs in business and industry.

If I major in Business Career Development, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program. However, many of the courses you take may be applied toward an associate degree at Essex County College. Check with your faculty advisor for more information.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this certificate?

If you do not need developmental coursework, you can complete the certificate in two semesters.

Where should I direct specific questions about this program?

Contact the Business Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of basic business principles;
- Communicate effectively using business terms and concepts;
- Demonstrate proficiency in keyboarding and document processing;
- Explain and apply motivational theories in business;
- Demonstrate dependability and initiative in carrying out responsibilities;
- Demonstrate computer skills; and
- Demonstrate knowledge of global business standards.

Business Career Development — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(3 credits)

Communications (3 credits)

ENG	101	College Composition I	3

MAJOR COURSE REQUIREMENTS:
(24 credits)

BUS	101	Business Organization & Mgt.	3
BUS	141	Business Mathematics	3
BUS	201	Principles of Management	3
BUS	204	Intro. to Org. Behavior in Business	3
Two courses in Advanced Business (at the 200-level)			6
CIS 131, 135, 137, or 139			3
OST	105	Microcomputer Keyboarding and Document Processing	3

ADDITIONAL COURSE REQUIREMENTS:
(3 credits)

Free elective	3
Total Credits Required for Certificate	**30**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

BUS	101	Business Organization & Mgt.	3
BUS	141	Business Mathematics	3
CIS elective			3
OST	105	Microcomputer Keyboarding and Document Processing	3
ENG	101	College Composition I	3

Second Semester

BUS	201	Principles of Management	3
BUS	204	Intro. to Org. Behavior in Business	3
BUS elective			3
BUS elective			3
Free elective (CEE 298 Cooperative Education Experience I recommended)			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Chemical Technology Program

Division of Biology & Chemistry — Curriculum Code: 2306
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Chemical Technology?

This major prepares you for careers in the chemical, pharmaceutical, and health care industries as laboratory technicians, research assistants, or quality control analysts. With experience you may find positions in marketing, production, and consumer service. The program is offered jointly by Essex County College and the Technical Training Project Inc. (TTP). The instruction has a strong cooperative education component. Program participants receive six weeks of internship experience. TTP graduates who are already employed may choose to pursue the associate degree for professional advancement purposes.

If I major in Chemical Technology, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program. However, credits earned in this associate degree program are transferable to technology programs at Thomas Edison State College. Also, other colleges and universities will apply most or all of the courses you have taken towards a bachelor's degree, depending upon their program requirements.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Developmental courses can be taken while enrolled in the TTP Program with the permission of the director of the TTP Program.

How long will it take for me to complete this degree?

If you do not need remedial courses and you can take an average of 17 credits per semester, you should be able to complete the program in two years. If you have enrolled after completing the TTP program, you can complete this degree in two regular (fall and spring) semesters.

Where should I direct specific questions about this program?

For answers to questions on the TTP program, contact the Program Director at (973) 624-1400. For answers to questions on the Chemical Technology A.A.S. degree program, call the Division at (973) 877-3430.

Upon completion of this program, graduates will be able to:

- Demonstrate mastery of the fundamental concepts of chemistry and physics;
- Perform qualitative, quantitative, and instrumental analysis of raw and finished products using standard tools and equipment;
- Use the computer for collecting and assessing laboratory data and for preparing reports;
- Demonstrate knowledge of quality control standards;
- Offer operational assistance in solving technical problems; and
- Enhance employability in the chemical industry workforce.

Chemical Technology — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(20-22 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Math (3-4 credits)

MTH 100 or higher	3-4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(18 credits)

CHM	107	Technical Chemistry I*	3
CHM	108	Technical Chemistry II*	3
CHM	109	Technical Chemistry Lab*	2
CHM	111	Chemistry Seminar*	3
CHM	112	Chemical Calculations*	3
CHM	206	Instrumental Methods*	4

ADDITIONAL COURSE REQUIREMENTS:
(26 credits)

MTH	109	Technical Math	3
PHY	101	College Physics I	4
PHY	102	College Physics II	4
BIO	101	College Biology I	4
BIO	102	College Biology II	4
CIS 131 or higher level CIS course			3
Science elective:			
Select from BIO, CHM, CIS, PHY			4

Total Credits Required for Degree **64-66**

* Courses taught by TTP for which college credit is awarded upon successful completion of the TTP Program.

RECOMMENDED SEQUENCE OF COURSES:**

First Semester

BIO	101	College Biology I	4
PHY	101	College Physics I	4
ENG	101	College Composition I	3
MTH	109	Technical Math*	3
Social Science requirement			3

Second Semester

BIO	102	College Biology II	4
PHY	102	College Physics II	4
ENG	102	College Composition II	3
Math requirement			3-4

Third Semester

CHM	107	Technical Chemistry I*	3
CHM	108	Technical Chemistry II*	3
CHM	109	Technical Chemistry Lab*	2
CHM	111	Chemistry Seminar*	3
CHM	112	Chemical Calculations*	3
CHM	206	Instrumental Methods*	4

Fourth Semester

PHE 119 or HLT 101	2-3
History requirement	3
CIS requirement	3
Social Science requirement	3
Science elective	4

**NOTE: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Chemical Technology Certificate Program

Division of Biology & Chemistry — Curriculum Code: 3306
Will Earn Upon Program Completion: Certificate in Chemical Technology

Why should I participate in the Chemical Technology Certificate Program (also called the Technical Training Project Inc. Program or TTP)?

If you want to enter the scientific workforce as soon as possible, the TTP program may be for you. TTP prepares individuals for technical careers as laboratory technicians and analysts of raw and finished products. In this program, participants receive 20 weeks of academic instruction as well as internship experience. Courses are taught by TTP professionals and guest lecturers from the industry. Essex County College recognizes TTP graduates by awarding them a certificate in Chemical Technology.

If I major in Chemical Technology, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program, but courses earned upon program completion can be applied to Essex County College's associate degree program in Chemical Technology. Also, credits earned in this program are transferable to degree programs at Thomas Edison State College.

Are there any requirements I must satisfy before I start the program?

You must have a high school diploma or GED.

How long will it take for me to complete this program?

You should be able to complete the program in 20 weeks.

Where should I direct specific questions about this program?

For answers to questions on the TTP Program, contact the Program Director at (973) 624-1400.

Upon completion of this program, graduates will be able to:

- Demonstrate understanding of the basic principles of organic and inorganic chemistry;
- Make appropriate use of chemicals, materials, and lab equipment;
- Handle mathematical calculations;
- Maintain lab reports on experiments;
- Perform various techniques of wet and dry analysis; and
- Perform analysis of raw and finished products.

Chemical Technology — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
None

MAJOR COURSE REQUIREMENTS:
(21 credits)

CHM	107	Technical Chemistry I*	3
CHM	108	Technical Chemistry II*	3
CHM	109	Technical Chemistry Lab*	2
CHM	111	Chemistry Seminar*	3
CHM	112	Chemical Calculations*	3
CHM	206	Instrumental Methods*	4
MTH	109	Technical Mathematics	3

ADDITIONAL COURSE REQUIREMENTS:
None

Total Credits Required for Certificate **21**

* Courses taught by TTP for which college credit is awarded upon successful completion of the TTP Program.

RECOMMENDED SEQUENCE OF COURSES:**

CHM	107	Technical Chemistry I*	3
CHM	108	Technical Chemistry II*	3
CHM	109	Technical Chemistry Lab*	2
CHM	111	Chemistry Seminar*	3
CHM	112	Chemical Calculations*	3
CHM	206	Instrumental Methods*	4
MTH	109	Technical Mathematics*	3

****NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalogs.

Chemistry Program

Division of Biology & Chemistry — Curriculum Code: 0602
Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Chemistry?

Chemistry is essential to areas of study such as biology, medicine, dentistry, chemical engineering, pharmacology, forensics, and polymer science. In addition, chemists are in high demand and often go on to senior leadership levels in corporate America. The curriculum is equivalent to the first two years of a baccalaureate program in Chemistry. Emphasis is placed on scientific method and critical analysis that will enable you to solve chemical problems in areas of scientific endeavor.

If I major in Chemistry, can I transfer to an upper-division college or university?

The Associate in Science degree in Chemistry prepares you for transfer to upper-division colleges and universities to pursue a bachelor's degree. ECC's transfer/articulation agreements with area four-year institutions provide smooth transfer for our A.S. graduates.

Are there any requirements I must satisfy before I start taking courses in my major?

The basic skills competency test is a requirement for all majors. Major coursework can begin once you have completed all developmental courses. In addition, if you are at the final level of remediation in mathematics, English, and/or reading, you can take CHM 100. While this course does not count toward graduation in this major, it will provide an introduction to the basic chemical principles and theories that you will be learning in this program.

How long will it take for me to complete this degree?

If you do not need remedial courses and you take an average of 17 credits per semester, you should be able to complete the program in two years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3430.

Upon completion of this program, graduates will be able to:

- Utilize critical thinking and problem-solving skills, including the scientific method and methods of scientific conversion;
- Demonstrate a mastery of the fundamental concepts of thermochemistry, molecular geometry, states of matter, gas laws, quantum theory, chemical reactions, gases, and chemical calculations;
- Demonstrate a mastery of the fundamental concepts of stoichiometry, kinetics, chemical equilibrium, electrochemistry, nuclear chemistry, and acids and bases;
- Explain the importance of chemistry in everyday life;
- Specify synthetic pathways of organic molecules;
- Define functional groups and the reactions that they are involved in;
- Perform chemical experimentation in a safe and scientific manner, using proper scientific and laboratory safety procedures; and
- Successfully transfer to a four-year undergraduate degree program in chemistry.

Chemistry — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(35-36 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (12 credits)

MTH	121	Calculus with Analytic Geometry I	4
MTH	122	Calculus with Analytic Geometry II	4
PHY	101	College Physics I	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

Any 200-level English literature course	3
Any History course	3
ART 100, 101, 102 or 200 **or**	
MUS 100, 108, 109, or 117	3

MAJOR COURSE REQUIREMENTS:
(24 credits)

CHM	103	General Chemistry I	4
CHM	104	General Chemistry II	4
CHM	203	Organic Chemistry I	4
CHM	204	Organic Chemistry II	4
MTH	221	Calculus with Analytic Geometry III	4
PHY	102	College Physics II	4

ADDITIONAL COURSE REQUIREMENTS:
(3 credits)

Free elective	3

Total Credits Required for Degree **62-63**

The minimum passing grade for all courses designated BIO, CHM, MTH or PHY is "C." If you earn a grade below "C," you need to repeat that course.

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

CHM	103	General Chemistry I	4
PHY	101	College Physics I	4
ENG	101	College Composition I	3
MTH	121	Calculus with Analytic Geometry I	4
History requirement			3

Second Semester

CHM	104	General Chemistry II	4
PHY	102	College Physics II	4
ENG	102	College Composition II	3
MTH	122	Calculus with Analytic Geometry II	4

Third Semester

CHM	203	Organic Chemistry I	4
MTH	221	Calculus with Analytic Geometry III	4
Social Science requirement			3
Any 200-level English literature course			3

Fourth Semester

CHM	204	Organic Chemistry II	4
Art/Music requirement			3
Social Science requirement			3
Free elective			3
PHE 119 or HLT 101			2-3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Childhood Development Associate Certification Program

Division of Social Sciences - Curriculum Code 0204

Why enroll in the Childhood Development Associate Certification Program?

This program offers three courses that will prepare students to take the national Childhood Development Certification (CDA) exam. The courses provide the theoretical and practical foundation for obtaining a CDA certification. The certification is necessary for working as paraprofessional teachers in an early childhood classroom.

If I complete the Childhood Development Associate Certification Program, can I transfer to an upper-division college or university?

This program is career-oriented and not designed for transfer.

Are there any requirements I must satisfy before I start taking the program courses?

You must be a high school graduate or possess a GED. You also need to have accumulated, or be in the process of accumulating within five years, a total of 480 hours of experience working with children from infancy through five years of age in a group setting.

How long will it take for me to complete this program?

Depending upon your prior education and work experience, the program may be completed within one year.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3250 for referral to a faculty advisor.

Upon completion of this program, graduates will be able to:

- Demonstrate a thorough understanding of the principles of instruction in an early childhood setting;
- Apply practical skills necessary for successful completion of the certification process;
- Prepare and complete professional resource files; and
- Demonstrate an understanding of professional standards and practice skills in a professional setting.

Childhood Development Associate Certification Program

GENERAL EDUCATION REQUIREMENTS:
None

MAJOR COURSE REQUIREMENTS:
(11 credits)

ECE	101	Early Care and Education I	4
ECE	102	Early Care and Education II	4
ECE	103	Early Care and Education Fieldwork	3
Total Credits Required for Degree			**11**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ECE	101	Early Care and Education I	4

Second Semester

ECE	102	Early Care and Education II	4
ECE	103	Early Care and Education Fieldwork	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Civil Construction Engineering Technology Program

A Dual Admissions Program with NJIT

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 5309

Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Civil Construction Engineering Technology?

The program prepares students for employment in the construction and civil engineering fields. Employment opportunities can be found with engineering firms, building contractors, utility companies, materials testing companies, or engineering departments of governmental agencies. The program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET), III Market Place, Suite 1050, Baltimore, MD 21202, Telephone: (410) 347-7700.

If I major in Civil Construction Engineering Technology, can I transfer to an upper-division college or university?

Yes. You may choose to participate in the Dual Admissions program with New Jersey Institute of Technology and have all your credits applied to the first two years of the bachelor's degree program. Or you may transfer to one of many other colleges that will apply some or all of your credits toward a bachelor's degree in Civil Engineering Technology or Construction Management Technology. With the bachelor's degree, you become eligible to take the New Jersey professional engineer license exam.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in English, reading, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental course work and you attend full time, you can complete the degree in two years. Part-time students can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of basic construction principles and materials, including concrete, steel and wood;
- Analyze engineering drawings, demonstrating an understanding of the concept of scale and orthographic projection;
- Make precise measurements in the field using surveying instruments such as a theodolite, level, steel tape, and total station;
- Demonstrate knowledge of land surveying principles including traverse, level loop, topographic survey, construction stakeout, and road centerline design;
- Demonstrate knowledge of the fundamental principles of engineering mechanics, strength of materials, and structural systems;
- Perform soils tests and demonstrate knowledge of the underlying principles of soil mechanics;
- Design a simple culvert or storm sewer system and demonstrate knowledge of the underlying principles of hydraulics and hydrology; and
- Utilize computer software applications used in civil engineering and construction such as CAD, spreadsheets, word processing, and basic programming.

Note: To prepare for the civil/construction field, two distinct programs are available: Civil Construction Engineering Technology (Curr. Code 5309) and Engineering (Curr. Code 0399). Consult the program coordinator for a complete explanation.

Civil Construction Engineering Technology — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(21-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Math (4 credits)

MTH	113	College Algebra with Trigonometry	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(32 credits)

CET	111	Construction Methods & Materials	3
CET	211	Surveying I	3
CET	212	Surveying II	3
CET	221	Hydraulics and Drainage	4
CET	225	Soil Mechanics	3
CET	231	Structures	4
ENR	103	Engineering Graphics	2
ENR	105	Applied Computer Aided Design	2
ENR	110	Mechanics	3
ENR	220	Mechanics of Materials	4
CET	251	CET Seminar	1

ADDITIONAL COURSE REQUIREMENTS:
(14 credits)

CSC	112	Computer Prog. for Engr. & Tech.	3
MTH	114	Unified Calculus I	3
PHY	101	College Physics I	4
PHY	102	College Physics II	4

Total Credits Required for Degree **67-68**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
CET	111	Construction Methods & Materials	3
ENR	103	Engineering Graphics	2
MTH	113	College Algebra with Trigonometry	4
PHY	101	College Physics I	4

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
ENR	105	Applied Computer Aided Design	2
ENR	110	Mechanics	3
MTH	114	Unified Calculus I	3
PHY	102	College Physics II	4

Summer

Social Science requirement	3
Humanities requirement	3

Third Semester

CET	211	Surveying I	3
CSC	112	Computer Prog. for Engr. & Tech.	3
ENR	220	Mechanics of Materials	4
CET	225	Soil Mechanics	3
PHE 119 or HLT 101			2-3

Fourth Semester

CET	212	Surveying II	3
CET	221	Hydraulics and Drainage	4
CET	231	Structures	4
CET	251	CET Seminar	1
Social Science requirement			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Civil Construction Engineering Technology: Land Surveying Option

A Dual Admissions Program with NJIT

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 530S

Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Land Surveying?

The program prepares students for employment in the land surveying field. Surveying involves mapping features of the land as well as property boundaries, and laying out construction lines and grades. It involves the use of computerized electronic equipment for land based as well as satellite assisted measurements, and the preparation of maps by computer aided design (CAD). Jobs in the field for those seeking immediate employment range from field crew member to CAD operator, and are typically found in surveying firms, consulting engineering firms, utility companies, and in the engineering departments of governmental agencies.

If I major in Land Surveying, can I transfer to an upper-division college or university?

Yes. You may choose to participate in the Dual Admissions program with New Jersey Institute of Technology and have all your credits applied to the first two years of the bachelor's degree program in Surveying Engineering Technology. Or you may transfer to another college that applies most or all of your credits toward a bachelor's degree. With the bachelor's degree from NJIT, you become eligible to take the New Jersey land surveying license exam.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental course work and you attend full time, you can complete the degree in two years. Part-time students can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Make precise measurements in the field using surveying instruments such as a theodolite, level, steel tape, and total station;
- Demonstrate knowledge of land surveying principles including traverse, level loop, topographic survey, and construction stake out;
- Design a road centerline including horizontal and vertical alignments;
- Demonstrate understanding of engineering drawings including the concept of scale and orthographic projection;
- Assist in conducting a boundary survey including field measurements, calculations, and survey analysis;
- Design a simple storm sewer system and culvert and demonstrate knowledge of the underlying principles of hydraulics and hydrology;
- Demonstrate knowledge of the principles, rules and purposes of business law; and
- Utilize computer software applications used in the surveying field such as CAD, spreadsheets, word processing, and basic programming.

Civil Construction Engineering Technology: Land Surveying Option
A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(21-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Math (4 credits)

MTH	113	College Algebra with Trigonometry	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(24 credits)

CET	211	Surveying I	3
CET	212	Surveying II	3
CET	214	Evidence and Procedures for Boundary Location	3
CET	221	Hydraulics and Drainage	4
ENR	103	Engineering Graphics	2
ENR	105	Applied Computer Aided Design	2
BUS	251	Business Law I	3
BUS	252	Business Law II	3
CET	251	CET Seminar	1

ADDITIONAL COURSE REQUIREMENTS:
(20 credits)

CSC	112	Computer Prog. for Engr. & Tech.	3
MTH	114	Unified Calculus I	3
MTH	141	Mathematical Statistics	3
PHY	101	College Physics I	4
PHY	102	College Physics II	4
CIS	137	Microcomputer Databases	3

Total Credits Required for Degree **65-66**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
ENR	103	Engineering Graphics	2
BUS	251	Business Law I	3
MTH	113	College Algebra with Trigonometry	4
PHY	101	College Physics I	4

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
ENR	105	Applied Computer Aided Design	2
BUS	252	Business Law II	3
MTH	114	Unified Calculus I	3
PHY	102	College Physics II	4

Summer

Social Science requirement	3
Humanities requirement	3

Third Semester

CET	211	Surveying I	3
CSC	112	Computer Prog. for Engr. & Tech.	3
MTH	141	Mathematical Statistics	3
PHE 119 or HLT 101			2-3
Social Science requirement			3

Fourth Semester

CET	212	Surveying II	3
CET	214	Evidence and Procedures for Boundary Location	3
CET	221	Hydraulics and Drainage	4
CIS	137	Microcomputer Databases	3
CET	251	CET Seminar	1

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Computer Aided Design Technology Program

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 3205
Will Earn Upon Program Completion: Certificate in Computer Aided Design Technology

Why major in Computer Aided Design Technology?

Computer Aided Design (CAD) involves the preparation of engineering drawings using specialty computer software. In recent years, CAD has become the preferred means of drawing and illustrating in all engineering-related fields. The Computer Aided Design Technology certificate program is designed to provide students with the knowledge and skills needed to effectively use CAD in any professional environment. Fields in which CAD is used as a basic tool include civil, mechanical, and manufacturing engineering, architecture, surveying, and construction.

If I major in Computer Aided Design Technology, can I transfer to an upper-division college or university?

The Computer Aided Design Technology Program is intended as a career-oriented program. Courses completed as part of this certificate program can be applied toward associate degrees at ECC. Most or all credits earned in certificate programs that are applied to associate degree programs transfer to four-year institutions. See a divisional advisor for more information.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this certificate?

If you do not need developmental coursework and you attend full time, you can complete the certificate in two semesters. Part-time students can complete the program in two years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Apply principles of engineering graphics to prepare detailed drawings using CAD software;
- Demonstrate computer literacy in the use of various CAD systems;
- Use American National Standards Institute (ANSI) protocol for sizing and tolerancing of mating parts;
- Apply Geometric Dimension and Tolerancing (GD&T) techniques to engineering design; and
- Utilize 3D solid modeling CAD systems to create mechanical components and generate assembly designs.

Computer Aided Design Technology — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(10 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Math (4 credits)

MTH	100	Introductory College Mathematics	4

MAJOR COURSE REQUIREMENTS:
(14 credits)

ENR	100	Intro. to Engineering Tech. and Sci.	3
ENR	103	Engineering Graphics	2
ENR	105	Applied Computer Aided Design	2
ENR	106	Intermediate Computer Aided Design	2
ENR	205	Advanced Computer Aided Design	3
ENR	250	Computer Aided Design Project	2

Total Credits Required for Certificate **24**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
ENR	100	Intro. to Engineering Tech. and Sci.	3
ENR	103	Engineering Graphics	2
MTH	100	Introductory College Mathematics	4

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
ENR	105	Applied Computer Aided Design	2
ENR	106	Intermediate Computer Aided Design	2

Summer

ENR	205	Advanced Computer Aided Design	3
ENR	250	Computer Aided Design Project	2

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Computer Information Systems Program

A Dual Admissions Program with Kean University

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 2002

Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Computer Information Systems?

This program prepares students to transfer upon graduation to four-year institutions to pursue baccalaureate degrees in Computer Information Systems or Management Information Services, or to enter the information technology field directly. With the rapid growth in information technology, demand has increased for qualified individuals to serve in such capacities as technical support specialist, network technician, database application specialist, PC technician, and Help Desk technician.

If I major in Computer Information Systems, can I transfer to an upper-division college or university?

Yes. You may choose to participate in the Dual Admissions Program with Kean University and have all your credits applied to the first two years of Kean's bachelor's degree program, or you may transfer to one of many other four-year colleges and universities and apply most or all of your courses toward a bachelor's degree program.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental course work and you attend full time, you can complete the degree in two years. Part-time students can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Design applications programs in an object-oriented language using a variety of dynamic and static data structures;
- Design and implement a relational database with supporting applications, and demonstrate understanding of multi-user database processing on LANs in client-server systems;
- Apply business organization and management concepts to information technology environments; and
- Demonstrate an understanding of the principles of financial accounting for inventories receivables, assets, liabilities, internal control, and corporate entities.

Depending on selection of major elective, graduates will be able to do one of the following in addition to the above program objectives:

- Design digital circuitry;
- Utilize multitasking, pre-emptive scheduling, and time sharing operating system concepts and associated communications, networking, and security; or
- Develop applications for a network environment and demonstrate an understanding of the advantages of object-oriented design techniques including encapsulation, abstraction, inheritance, and reusability.

Computer Information Systems — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(34-35 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (11 credits)

MTH	113	College Algebra with Trigonometry	4
MTH	114	Unified Calculus I	3
Select any Laboratory Science course from:			
BIO, CHM, PHY			4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

Any History course	3
Any 200-level English literature course	3
ART 100, 101, 102, or 200 **or**	
MUS 100, 108, 109, or 117	3

MAJOR COURSE REQUIREMENTS:
(26 credits)

CIS	212	Systems Analysis & Design	3
CIS	215	Data Communications	3
CSC	121	Computer Science I	4
CSC	122	Computer Science II	4
CSC	225	Data Structures	4
CSC	221	Computer Systems & Architec. **or**	
CSC	228	Operating Systems **or**	
CSC	235	Advanced Object-Oriented Prog.	4
CSC	231	Database Design	4

ADDITIONAL COURSE REQUIREMENTS:
(10 credits)

ACC	101	Principles of Accounting I	4
BUS	101	Business Organ. & Management	3
MTH	136	Discrete Mathematics	3

Total Credits Required for Degree **70-71**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
CSC	121	Computer Science I	4
MTH	113	College Algebra with Trigonometry	4
History requirement			3
PHE 119 or HLT 101			2-3

Second Semester

ENG	102	College Composition II	3
CSC	122	Computer Science II	4
BUS	101	Business Organ. & Management	3
MTH	114	Unified Calculus I	3
Social Science requirement			3

Summer

Social Science requirement	3
Art/Music requirement	3

Third Semester

CIS	212	Systems Analysis & Design	3
CSC	225	Data Structures	4
ACC	101	Principles of Accounting I	4
MTH	136	Discrete Mathematics	3
Any 200-level English literature course			3

Fourth Semester

CIS	215	Data Communications	3
CSC	221	Computer Systems & Architec. **or**	
CSC	228	Operating Systems **or**	
CSC	235	Advanced Object-Oriented Prog.	4
CSC	231	Database Design	4
Lab Science requirement			4

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Computer Science Program

A Dual Admissions Program with NJIT

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 2302

Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Computer Science?

This program prepares students for transfer upon graduation to four-year institutions to pursue a baccalaureate degree in Computer Science or a related field, or to enter the computer technology job market directly. The program emphasizes mathematically-oriented computer applications. Employment opportunities for positions such as application programmer, systems programmer, systems analyst, and software engineer have traditionally been reserved for graduates with a B.S. or B.A. in Computer Science. However, due to the rapid growth in computer technology, there are now many job opportunities for A.S. graduates; typical entry level positions include technical support specialist, network technician, database application specialist, PC technician and Help Desk technician.

If I major in Computer Science, can I transfer to an upper-division college or university?

Yes. You may choose to participate in the Dual Admissions program with New Jersey Institute of Technology and have all your credits applied to the first two years of the bachelor's degree program in Computer Science. Or you may transfer to another four-year institution and apply most or all of your courses toward a bachelor's degree program.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental coursework and you attend full time, you can complete the degree in two years. Part-time students can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Design applications programs in an object-oriented language using a variety of dynamic and static data structures;
- Design digital circuitry;
- Utilize multitasking, pre-emptive scheduling, time sharing operating system concepts and associated communications, networking, and security issues;
- Design and implement a relational database with supporting applications;
- Demonstrate multi-user database processing on LANs in client-server systems;
- Demonstrate object-oriented design techniques utilizing encapsulation, abstraction, inheritance, and reusability; and
- Work with computer software applications used in engineering such as spreadsheets, word processing and basic programming.

Computer Science — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(35-36 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (12 credits)

PHY	103	General Physics I	4
MTH	121	Calculus with Analytic Geom. I	4
MTH	122	Calculus with Analytic Geom. II	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

Any History course	3
Any 200-level English literature course	3
ART 100, 101, 102, or 200 **or**	
MUS 100, 108, 109 or 117	3

MAJOR COURSE REQUIREMENTS:
(24 credits)

CSC	121	Computer Science I	4
CSC	122	Computer Science II	4
CSC	221	Computer Systems & Architecture	4
CSC	225	Data Structures	4
CSC	228	Operating Systems	4
CSC	231	Database Design **or**	
CSC	235	Advanced Object-Oriented Prog.	4

ADDITIONAL COURSE REQUIREMENTS:
(10 credits)

MTH	136	Discrete Mathematics	3
MTH	239	Intro. to Linear Algebra	3
PHY	104	General Physics II	4

Total Credits Required for Degree **69-70**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
CSC	121	Computer Science I	4
MTH	121	Calculus with Analytic Geom. I	4
PHY	103	General Physics I	4
Physical Education/Health requirement			2-3

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
CSC	122	Computer Science II	4
MTH	122	Calculus with Analytic Geom. II	4
PHY	104	General Physics II	4

Summer

Social Science requirement	3
Humanities requirement	3

Third Semester

CSC	221	Computer Systems & Architecture	4
CSC	225	Data Structures	4
MTH	136	Discrete Mathematics	3
Any 200-level English literature course			3
Social Science requirement			3

Fourth Semester

CSC	228	Operating Systems	4
CSC	231	Database Design **or**	
CSC	235	Advanced Object-Oriented Prog.	4
MTH	239	Intro. to Linear Algebra	3
Art/Music requirement			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Criminal Justice Program

Division of Social Sciences — Curriculum Code: 0898
Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Criminal Justice?

The program is designed to prepare each student to transfer upon graduation to a four-year institution to pursue a bachelor's degree in criminal justice or a related field, or to enter the job market directly. The program offers students preparation to enter or progress in the fields of professional law enforcement, pre-law, corrections, probation, parole, corporate security, juvenile youth services, and sky marshal.

If I major in Criminal Justice, can I transfer to an upper-division college or university?

Yes. You may choose to transfer to one of the following area four-year institutions. Essex County College, through the NJ Transfer Program, has entered into transfer/articulation agreements with all the following four-year colleges and the universities in the State: Rutgers, New Jersey City University, Kean University, William Patterson, and the John Jay College of Criminal Justice. These institutions admit students who complete their A.S. degree as juniors. This means you can complete your freshman and sophomore year at affordable Essex County College. There is also an articulation agreement with Thomas Edison State College, which offers an alternate route to a Bachelor's Degree. This program features blended courses, online classes, and continued study at ECC for satisfaction of the four-year degree requirement. Consult with your advisor or transfer coordinator to review specific requirements for gaining junior status upon transfer.

Are there any requirements I must satisfy before I start taking courses in my major?

New students are required to take the basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental course work and you register for an average of 17 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the summer.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3250.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of the basic theories that form the foundation of the criminal justice discipline;
- Demonstrate basic knowledge of criminal law and the rights of individual citizens;
- Demonstrate knowledge of the role of the criminal justice officer in the community, and the organization and administration of the various entities in the criminal justice system;
- Explain the correctional process;
- Analyze the nature of crime and criminal behavior based on major theories and current issues;
- Demonstrate knowledge of the procedures involved in criminal investigation;
- Recognize the application of physical and biological sciences to physical evidence;
- Recognize social and political trends within society that influence areas of criminal justice; and
- Demonstrate critical thinking skills within the context of evaluating the complexity of criminal justice issues.
- Understand the ethical responsibilities of criminal justice professionals;
- Analyze the impact of societal diversity on the criminal justice system.

Criminal Justice — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(34-36 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

POL	104	American Government	3
ANT 101, PSY 101, or SOC 101			3

Lab Science/Math (11-12 credits)

MTH	100 or higher		3-4
BIO 101 and 102			8

Physical Education (2-3 credits)

PHE 119 or HLT 101			2-3

Humanities (9 credits)

Any History course within a sequence	3
Any 200-level English literature course	3
ART 100, 101, 102, or 200 **or** MUS 100, 108, 109, or 117	3

MAJOR COURSE REQUIREMENTS:
(21 credits)

CJI	101	Introduction to Criminal Justice	3
CJI	121	Introduction to Corrections	3
CJI	136	Criminology	3
CJI	202	Crime and Delinquency	3
CJI	205	Criminal Law	3
Two courses selected from: CJI 102, 103, 111, 112, 120, 123, 203, 204, 210, or 250			6

ADDITIONAL COURSE REQUIREMENTS:
(15-16 credits)

Any English literature course	3
Elementary Spanish I and II **or** Elementary French I and II	6**
Complete the History sequence	3
Total Credits Required for Degree	**67-69**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

BIO	101	College Biology I	4
CJI	101	Introduction to Criminal Justice	3
ENG	101	College Composition I	3
History course within a sequence			3
Spanish/French requirement			3

Second Semester

BIO	102	College Biology II	4
Any CJI required course or CJI elective. Suggested: CJI 102 Police Role in the Community **or** CJI 103 Probation and Parole			3
ENG	102	College Composition II	3
Complete the History sequence			3
Spanish/French requirement			3

Summer

HLT/PHE requirement	2-3
ART/MUS requirement	3

Third Semester

Any 200-level English literature course			3
Math requirement			4
CJI	136	Criminology	3
CJI	121	Introduction to Corrections	3
Social Science requirement			3

Fourth Semester

Any 200-level English literature course			3
CJI	202	Crime and Delinquency	3
CJI	205	Criminal Law	3
Criminal Justice requirement			3
POL	104	American Government	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

** See advisor for other language options, such as Arabic.

Dental Assisting Program

A Joint Admissions Program with the University of Medicine and Dentistry of NJ

Division of Allied Health — Curriculum Code: 6005

Will Earn Upon Program Completion: Certificate in Dental Assisting

(Also see General Science - A.S. Degree Program)

Why major in Dental Assisting?

Dental Assistants help dentists in caring for patients. This certificate program, offered jointly by Essex County College and the University of Medicine and Dentistry of New Jersey, prepares students to take the licensing exam to qualify to work with dentists. Dental Assistants can earn a competitive salary, work in a professional environment, and enjoy the advantages of flexible work hours. The program is accredited by the American Dental Association/Council on Dental Education/Dental Assisting Section.

If I major in Dental Assisting, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program. However, credits earned upon program completion can be applied to Essex County College's associate degree program in Dental Hygiene. Also other colleges and universities, including Thomas Edison State College and the University of Medicine and Dentistry of New Jersey, may apply most or all of the courses you have taken toward a baccalaureate program.

Are there any requirements I must satisfy before I start taking courses in my major?

Admission into the professional component of the program is selective. Application deadline is May 15 for enrollment in the following spring semester. **Each student must meet with a program advisor prior to submission of an application.** The following are the minimum requirements for admission:

- Be at the college level in reading, English, and mathematics, which may require the completion of developmental courses based on placement test scores.
- Have a grade of "C" or better in each of the following pre-requisite courses: BIO 121, ENG 101, PSY 101 and a minimum GPA of 2.0 or higher.
- Complete a standardized Allied Health examination.

How long will it take for me to complete this degree?

- If you do not need developmental courses and have completed the pre-requisite courses for admission, you can complete the professional phase of the program in two academic semesters as a full-time student.
- Some courses may be web-based. Students must have computer and Internet access.

Where should I direct specific questions about this program?

Call the Allied Health Division at (973) 877-3354.

Upon completion of this program, graduates will be able to:

- Take the Certified Dental Assistants Examination (CDA) administered by the Dental Assisting National Board
- Perform the following duties:
  - Assist the dentist in all phases of treatment
  - Sterilize instruments
  - Prepare treatment rooms
  - Provide patient eduction and nutritional counseling
  - Arrange and confirm appointments
  - Prepare dental insurance claims
  - Expose, process, and mount radiographs
  - Perform a variety of intra-oral expanded functions
  - Fabricate mouth guards
  - Work as members of a dental team
  - Perform basic laboratory procedures
  - Select and transfer instruments to the dentist

Dental Assisting — Certificate Program

(Also see General Science - A.S. Degree Program)

GENERAL EDUCATION REQUIREMENTS:
(10 credits)

Communications (3 credits)

ENG	101	College Composition I	3

Social Science (3 credits)

PSY	101	General Psychology I	3

Lab Science (4 credits)

BIO	121	Anatomy & Physiology I	4

MAJOR COURSE REQUIREMENTS:
(23 credits)

DAS	103	Dental Materials*	3
DAS	106	Dental Science*	2
DAS	107	Clinical Assisting*	3
DAS	108	Practice Management*	1
DAS	110	Internship*	1
DHY	101	Dental Head & Neck Anatomy*	3
DHY	102	Dental Radiology*	3
DHY	110	Medical Emergencies in the Dental Office*	1
DHY	112	Introduction to the Dental Professions*	4
DHY	113	Dental Health Education I*	1
DHY	205	Dental Specialties I*	1
Total Credits Required for Certificate			**33**

***CORE COURSES:**
A grade of "C+" is required in core dental courses in order to utilize them in transfer to Dental Hygiene.

The minimum passing grade for all courses is "C." If you earn a grade below "C," you need to repeat that course.

RECOMMENDED SEQUENCE OF COURSES:**

See program advisor for recommended sequence of general education requirements.

Spring Semester

DHY	101	Dental Head & Neck Anatomy	3
DHY	112	Intro. To the Dental Professions	4
DAS	103	Dental Materials	3
DHY	110	Medical Emergencies in the Dental Office	1
DHY	205	Dental Specialties I	1

Fall Semester

DAS	108	Practice Management	1
DAS	106	Dental Science	2
DHY	102	Dental Radiology	3
DHY	113	Dental Health Education	1
DAS	107	Clinical Assisting	3
DAS	110	Internship	1

****NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Dental Hygiene Program

A Joint Admissions Program with the University of Medicine and Dentistry of NJ

Division of Allied Health — Curriculum Code: 2108

Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

(Also see General Science - A.S. Degree Program)

Why major in Dental Hygiene?

This associate degree program, offered jointly by Essex County College and the University of Medicine and Dentistry of New Jersey, prepares you for a career as a registered dental hygienist. Dental hygienists perform services that detect, prevent, and treat diseases of the mouth, under the supervision of a dentist. The program is accredited by the American Dental Association/Council on Dental Education/Dental Hygiene Section. Graduates are qualified to take the National Board and the North East Regional Board examinations to secure licenses to practice. Dental hygienists can gain employment in private dental offices, community and school health education programs, hospital dental clinics, and private industrial employee clinics.

If I major in Dental Hygiene, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program. However, colleges and universities including Thomas Edison State College, the University of Medicine and Dentistry of New Jersey, and Montclair State University may apply most or all of the courses you have taken toward a bachelor's degree.

Are there any requirements I must satisfy before I start taking courses in my major?

Admission into the professional component of the program is selective. Application deadline is May 15 for enrollment in the following spring semester. **Each student must meet with a program advisor prior to submission of an application.** The following are the minimum requirements for admission:

- Be at the college level in reading, English, and mathematics, which may require the completion of developmental courses based on placement test scores.
- Complete a 34 credit pre-professional component of general education courses and basic science courses with a minimum of a 2.5 cumulative GPA.
- Have a grade of "C" or better in each of the following prerequisite courses: BIO 121, BIO 122, BIO 211, CHM 101, ENG 101, and PSY 101, and a minimum GPA of 2.5 or higher.
- Complete a standardized Allied Health examination.

How long will it take for me to complete this degree?

- If you do not need developmental courses and have completed the prerequisite courses for admission, you can complete the professional phase of the program in four academic semesters as a full-time student.
- Some courses may be web-based. Students must have computer and Internet access.

Where should I direct specific questions about this program?

Call the Division at (973) 877-3354.

Upon completion of this program, graduates will be able to perform the following:

- Prophylaxis (clean teeth)
- Administer fluoride
- Provide patient education and nutritional counseling
- Expose, process, and mount radiographs
- Examine head, neck and oral areas for disease
- Fabricate mouth guards
- Polish amalgam restorations
- Perform basic laboratory procedures;
- Work as a member of the dental health care team.

◆ Exhibit competency as clinicians through demonstrated performance on the North East Regional Board Dental Hygiene Examination and the National Board Examination and feedback from employers surveys;

◆ Assume responsibility for health promotion and disease prevention for individuals and communities through participation in multiple dental health education projects;

◆ Perform multiple, advanced level dental auxiliary functions as defined in the New Jersey State Dental Practice Act under the auspices of Dental Specialties II;

◆ Obtain the RDH license;

◆ Demonstrate professional development through membership in the Student American Dental Hygienists' Association and participation in related activities;

◆ Display professionalism in the delivery of comprehensive dental health care;

◆ Prepare individuals for employment as dental hygienists;

◆ Determine student satisfaction with educational programming;

◆ Assess patient satisfaction with treatment service provided by students through data collection from the patient satisfaction survey.

Dental Hygiene — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(19 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

PSY	101	General Psychology I	3
SOC	101	Introduction to Sociology	3

Lab Science (4 credits)

CHM	101	College Chemistry I	4

Humanities (3 credits)

Any History course			3

MAJOR COURSE REQUIREMENTS:
(52 credits)

DAS	103	Dental Materials*	3
DAS	108	Practice Management*	1
DHY	100	Intro. to Clinical Dental Hygiene	4
DHY	101	Dental Head & Neck Anatomy*	3
DHY	102	Dental Radiology*	3
DHY	103	Clinical Dental Hygiene I	3
DHY	104	Clinical Services I	3
DHY	106	Nutrition	2
DHY	107	Oral Embryology & Histology	2
DHY	110	Medical Emerg. in the Dental Office*	1
DHY	112	Introduction to the Dental Professions*	4
DHY	113	Dental Health Education*	1
DHY	200	Oral Pathology	2
DHY	201	Periodontology I	2
DHY	202	Clinical Dental Hygiene II	2
DHY	203	Clinical Services II	3
DHY	204	Dental Health Edu./Comm. Dental Health	2
DHY	205	Dental Specialties I*	1
DHY	207	Clinical Services III	3
DHY	209	Pharmacology & Oral Medicine	1
DHY	210	Dental Specialities II	1
DHY	211	Periodontology II	2
DHY	213	Capstone Seminar	2
DHY	215	Pain and Anxiety Control	1

ADDITIONAL COURSE REQUIREMENTS:
(15 credits)

BIO	121	Anatomy & Physiology I	4
BIO	122	Anatomy & Physiology II	4
BIO	211	Microbiology	4
ENG	109	Effective Speech	3

Total Credits Required for Degree **86**

***CORE COURSES:**
A grade of "C+" is required in core dental courses. The minimum passing grade for all other courses is "C." If you earn a grade below "C," you need to repeat that course.

RECOMMENDED SEQUENCE OF COURSES:**

See program advisor for recommended sequence of general education and additional course requirements.

Spring Semester

DHY	101	Dental Head & Neck Anatomy	3
DHY	112	Intro. to the Dental Professions	4
DHY	100	Intro. to Clinical Dental Hygiene	4
DAS	103	Dental Materials	3
DHY	110	Medical Emergencies in the Dental Office	1

Fall Semester

DHY	113	Dental Health Education	1
DHY	102	Dental Radiology	3
DHY	103	Clinical Dental Hygiene I	3
DHY	104	Clinical Services I	3
DHY	107	Oral Embryology & Histology	2

Spring Semester

DHY	106	Nutrition	2
DHY	200	Oral Pathology	2
DHY	204	Dental Health Ed./Comm. Dental Health	2
DHY	209	Pharmacology & Oral Medicine	1
DHY	201	Periodontology I	2
DHY	202	Clinical Dental Hygiene II	2
DHY	203	Clinical Services II	3
DHY	205	Dental Specialties I	1

Fall Semester

DAS	108	Practice Management	1
DHY	213	Capstone Seminar	2
DHY	211	Periodontology II	2
DHY	207	Clinical Services III	3
DHY	210	Dental Specialties II	1
DHY	215	Pain and Anxiety Control	1

****NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Digital Media and Electronic Publishing Program

Division of Humanities — Curriculum Code: 3071
Will Earn Upon Program Completion: Certificate in Digital Media and Electronic Publishing

Why major in Digital Media and Electronic Publishing?

This certificate program prepares individuals for employment in professional positions in desktop publishing, advertising graphics, video editing, and digital production. The skills developed in the courses prepare students for employment at specialized printing companies, multimedia production centers, and digital media companies. The program has been created in accordance with the standards established by the Electronic Imaging Printing Industry Association and also the National Voluntary Skills Standards for Pre-press/Imaging in the Graphics Communication Industry.

If I major in Digital Media and Electronic Publishing, can I transfer to an upper-division college or university?

Courses earned as part of certificate programs can often be applied toward associate degrees at ECC. Most or all credits earned in certificate programs that are applied to associate degree programs transfer to four-year institutions. See a divisional counselor for more information.

Are there any requirements I must satisfy before I start taking courses in my major?

No.

How long will it take for me to complete this certificate?

If you follow the recommended sequence of courses, it should take you three semesters, or two semesters and one summer term, to complete your requirements.

Where should I direct specific questions about this program?

Contact the Humanities Division at (973) 877-3319/3320.

Upon completion of this program, graduates will be able to:

- Demonstrate understanding of visual design fundamentals and media technology;
- Demonstrate knowledge of the fundamental theories, practices, and computer application of presentation graphics;
- Use a variety of design software programs to produce graphic design for print and Web-based media;
- Design websites that include texts and graphics;
- Design, layout, and prepare a variety of graphic materials and text on the computer for print and/or publication and/or video presentation;
- Develop interpersonal skills; and
- Work independently or as part of a team.

Digital Media and Electronic Publishing — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
None

MAJOR COURSE REQUIREMENTS:
(12 credits)

ART	161	Computer Enhanced Layout & Design	3
ART	167	Introduction to Computer Art	3
ART	168	Desktop Publishing/ Presentation Graphics	3
ART	169	Advanced Computer Graphics	3

ADDITIONAL COURSE REQUIREMENTS:
(6 credits)

The following are the courses that emphasize Electronic Pre-Press Publishing:

ART	160	Electronic Mechan./Pre-Press Prod.	3
ART	170	Basic Web Page Design	3

The following are the courses that emphasize Digital Media:

ART	163	Digital Video Graphic Design	3
ART	171	Cyberspace Graph. & Begin. Anima.	3

Total Credits Required for Certificate **18**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ART	167	Introduction to Computer Art	3
ART	168	Desktop Publishing/ Presentation Graphics	3

Second Semester

ART	161	Computer Enhanced Layout & Design	3
Additional Course 1			3

Summer or Third Semester

ART	169	Advanced Computer Graphics	3
Additional Course 2			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Education Program

Division of Social Sciences — Curriculum Code: 0206
Will Earn Upon Program Completion: Associate in Arts (A.A.) Degree

Why major in Education?

This program is designed for students interested in pursuing a teaching career in education in a public, private, or parochial setting. It provides students with the tools and information to become a professional teacher. The program is designed to meet the challenge of teaching in today's society.

If I major in Education, can I transfer to an upper-division college or university?

ECC's transfer/articulation agreements with area four-year institutions will allow students in this A.A. program to transfer to appropriate baccalaureate degree programs.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in mathematics, English, and/or reading before taking the core curriculum courses in your major.

How long will it take for me to complete the A.A. degree?

If you do not need developmental coursework and you register for an average of 15 credits per semester, you can complete the degree in two years.

After completing this A.A. degree program at ECC, how do I secure my teaching certificate?

You need to meet the following requirements for certification as a teacher as mandated by the state of New Jersey.

- Possess a bachelor's degree from a regionally accredited college or university;
- Achieve a baccalaureate grade point average of at least 2.75 when a 4.0 equals an "A" grade;
- Pass the Praxis Examination;
- Complete student teaching in a public school setting through an accredited four year college/university.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3250 for referral to a faculty advisor.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of the basic principles of educational theory and practice;
- Exhibit a broad based knowledge of the disciplines necessary to prepare a student for completion of a teacher education program;
- Demonstrate an understanding and appreciation of the basic principles of the humanities and social sciences;
- Demonstrate a thorough knowledge of lab science and mathematics; and
- Express themselves in appropriate written and oral form.

***Note:** Students interested in careers in education must seek on-going academic advisement.

Education — A.A. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(45-48 credits)

Communications (9 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3
ENG	109	Effective Speech	3

Social Science (6 credits)

PSY	101	General Psychology I	3
PSY	220 or	SOC 101	3

Lab Science/Math (10-12 credits)

A Lab Science sequence and a Math course (100 or higher) or two Math courses (100 or higher) and a Lab Science course:

MTH (100 level or higher)	3-8

Select Lab Science courses from:

BIO 101-102, 103-104, or 121-122, CHM 101-102 or 103-104, PHY 101-102, 103-104, or 113-114	4-8

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (18 credits)

Any History sequence (Recommended: HST 101 and 102)	6
Any two 200-level English Literature courses (Recommended: ENG 205 and 215)	6
ART 100, ART 101, ART 102, ART 200, MUS 100, MUS 108, MUS 109, or MUS 119	3
Free Humanities elective (Recommended: A foreign language course)	3

MAJOR COURSE REQUIREMENTS:
(15 credits)

EDU	101	Introduction to Education	3
PSY	219	Child Psychology and Development	3
Select any 2 EDU courses			6
Free Elective			3

Total Credits Required for Degree **60-63**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

EDU	101	Introduction to Education	3
ENG	101	College Composition I	3
HST	101	World Civilization I	3
PSY	101	General Psychology I	3
Physical Education/Health requirement			2-3

Second Semester

Art/Music requirement			3
ENG	102	College Composition II	3
HST	102	World Civilization II	3
Math/Lab Science requirement			4
SOC	101	Introduction to Sociology	3

Third Semester

Free Elective			3
Math/Lab Science requirement			4
Free Humanities elective			3
ENG	109	Effective Speech	3
PSY	219	Child Psychology and Development	3

Fourth Semester

Math/Lab Science requirement			4
ENG	205	The Western Literary Tradition	3
ENG	215	Modern Literary Masterpieces	3
* Select any two EDU courses			6

* Education Seminar/Fieldwork courses must be taken together (e.g., EDU 233 & EDU 234; EDU 235 & EDU 236)

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Electronic Engineering Technology Program

A Dual Admissions Program with NJIT

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 2307

Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Electronic Engineering Technology?

Look inside any computer, TV, telephone, medical instrument, or household appliance and you will find electronic components, circuits, and systems. The same is true for traffic control systems, aircraft engines, cameras, automobiles, and other devices. All of these were designed and manufactured by engineers and technicians trained in the principles of electronic technology. ECC's program prepares students to work with engineers in the design, fabrication, installation, operation, maintenance, and repair of electronic and electrical instruments and machinery. The program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET), III Market Place, Suite 1050, Baltimore, MD 21202, Telephone: (410) 347-7700.

If I major in Electronic Engineering Technology, can I transfer to an upper-division college or university?

Yes. You may choose to participate in the Dual Admissions program with the New Jersey Institute of Technology and have all your credits applied to the first two years of NJIT's four-year bachelor's degree program. Or you may choose to transfer to another college that will apply most or all of your credits toward a bachelor's degree in Electronic Engineering Technology.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental coursework and you attend full time, you can complete the degree in two years. Part-time students can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Use basic electronics test and measurement instruments including multimeters and oscilloscopes to troubleshoot electronics devices;
- Read schematic electronics diagrams for purposes of testing and development;
- Use software packages to analyze analog and digital electronics circuits with the aid of a digital computer;
- Analyze passive electric circuits to predict their behavior;
- Analyze active electronic circuits such as amplifiers;
- Demonstrate an understanding of digital circuits such as the type used in the construction of computers;
- Explain the physical principles involved in electromechanical energy conversion and describe the construction of electrical motors and generators; and
- Explain the principles of electronic communications including AM and FM generation and detection.

Note: To prepare for the electronics field, two distinct programs are available: Electronic Engineering Technology (Curr. Code 2307) and Engineering (Curr. Code 0399). Consult the program coordinator for a complete explanation.

Electronic Engineering Technology — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(21-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Math (4 credits)

MTH	113	College Algebra with Trigonometry	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(29 credits)

ELC	115	Electric Circuits: DC & AC	4
ELC	120	Electronics I - Semicond. Comp.	4
ELC	211	Electric Power	3
ELC	218	Pulse and Digital Circuits	3
ELC	221	Electronics II: Amplifiers	4
ELC	222	Electronics III: Commun. Systems	4
ELC	224	Linear Circuit Analysis	3
ELC	228	Intro. to Microprocessors	4

ADDITIONAL COURSE REQUIREMENTS:
(16 credits)

CSC	112	Computer Prog. for Engr. & Tech.	3
ENR	103	Engineering Graphics	2
MTH	114	Unified Calculus I	3
PHY	101	College Physics I	4
PHY	102	College Physics II	4

Total Credits Required for Degree **66-67**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
ELC	115	Electric Circuits: DC & AC	4
MTH	113	College Algebra with Trigonometry	4
PHY	101	College Physics I	4

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
ENR	103	Engineering Graphics	2
ELC	120	Electronics I - Semicond. Comp.	4
MTH	114	Unified Calculus I	3
PHY	102	College Physics II	4

Summer

Social Science requirement	3
Humanities requirement	3

Third Semester

CSC	112	Computer Prog. for Engr. & Tech.	3
ELC	211	Electric Power	3
ELC	218	Pulse and Digital Circuits	3
ELC	221	Electronics II: Amplifiers	4
Physical Education/Health requirement			2-3

Fourth Semester

ELC	222	Electronics III: Commun. Systems	4
ELC	224	Linear Circuit Analysis	3
ELC	228	Intro. to Microprocessors	4
Social Science requirement			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Energy Utility Technology A.A.S. Degree Program

Division of Engineering Technologies and Computer Sciences
Curriculum Code: 2308
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Energy Utility Technology?

Public Service Electric & Gas (PSE&G) has teamed up with Essex County College to offer an exciting new Associate Degree that can help you get started on a career in one of New Jersey's most stable and essential industries and one of the state's oldest and most well-respected corporate partners, PSE&G. Through a unique blend of coursework, specialized training, and hands-on work experience, you will acquire the knowledge and skill needed to be a technician in the energy utility industry. One of the greatest benefits of the Engergy Utility Technology program is that it leads to a job. PSE&G will offer you employment if you complete the degree program and meet the requirements of the company.

If I major in Energy Utility Technology, can I transfer to an upper-division college or university?

The major is job-oriented and designed for entrance to industry. However, you can transfer to Thomas Edison State College and earn a B.S. in Energy Utility Technology.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in English and mathematics.

How long will it take for me to complete this degree?

If you do not need developmental coursework and you attend full time, you can complete the degree in two years. Part-time students who work full time can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Demonstrate an understanding of the energy industry, including the history of providing reliable service and regulatory influences;
- Read schematic electronics diagrams for purposes of testing and development;
- Diagnose combustion problems as they relate to the energy utility industry;
- Use basic electronics test and measurement instruments including multimeters and oscilloscopes to troubleshoot electronics devices;
- Perform piping on residential appliances and gas leak investigation;
- Install and test meters and demonstrate an understanding of electric utility distribution.

Energy Utility Technology — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(21-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 101, SOC 101, or POL 104	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (4 credits)

MTH	113	College Algebra with Trig.	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(25-31 credits)

UTI	101	Intro. to the Energy Utility Ind.	3
UTI	102	Fund. of Gas Combustion	3
UTI	103	Fund. of Power Alternating Current	3
UTI	201	Energy Utility Co-op I	4
UTI	202	Energy Utility Co-op II	4
Energy Utility Elective[1]			4-7
Energy Utility Elective[1]			4-7

ADDITIONAL COURSE REQUIREMENTS:
(15 credits)

ELC	115	Electric Circuits: DC & AC	4
BUS	207	Leadership and Supervision in Organizations	3
Laboratory Science course[2]			4
Laboratory Science course[2]			4

Total Credits Required for Degree	**61-68**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
MTH	113	College Algebra with Trig.	4
UTI	101	Intro. to the Energy Utility Ind.	3
UTI	102	Fund. of Gas Combustion	3

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
ELC	115	Electric Circuits: DC & AC	4
Social Science Course			3
Energy Utility Elective[1]			4-7

Summer

UTI	201	Energy Utility Co-op I	4

Third Semester

UTI	103	Fund. of Power Alternating Current	3
Laboratory Science course[2]			4
Social Science Course			3
Humanities Course			3
Physical Ed./Health			2-3

Fourth Semester

Energy Utility Elective[1]			4-7
Laboratory Science course[2]			4
BUS	207	Leadership and Supervision in Organizations	3

Summer

UTI	202	Energy Utility Co-op II	4

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

[1] Select, in consultation with an academic advisor, from UTI 104 or other higher 100-level UTI course.

[2] Select, in consultation with an academic advisor, an appropriate BIO, CHM, or PHY course. Students who plan to transfer to a bachelor's degree program should choose PHY 101 and PHY 102.

Engineering Program

A Dual Admissions Program with NJIT

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 0399

Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Engineering?

Engineers design processes and materials used to manufacture equipment, structures, devices, and systems of all types and sizes based on scientific and technological principles. The challenge is to continually improve these processes and materials to meet the needs of society with respect to health, safety, the environment, and energy while maintaining cost effectiveness. ECC's Engineering A.S. degree program closely matches the first two years of B.S. degree programs in Engineering offered at four-year colleges. Students select one of the following branches of engineering: electrical, computer, biomedical, chemical, industrial, civil, or mechanical.

If I major in Engineering, can I transfer to an upper-division college or university?

Yes. The seven branches of engineering listed above are offered at the nearby New Jersey Institute of Technology with which Essex County College has a dual admissions agreement. Upon graduation from Essex, your credits will be applied to the first two years of the bachelor's degree program in any of those branches. Or you may choose to transfer your credits to one of five other colleges in New Jersey and numerous others in the New York metropolitan area that offer the baccalaureate in Engineering.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental course work and you attend full time, you can complete the degree in two years. Part-time students can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Analyze engineering drawings, demonstrating an understanding of the concept of scale and orthographic projection;
- Assist engineers and technologists in performing tasks relevant to the chosen branch of engineering;
- Complete written engineering reports using skills acquired in ECC's science, engineering, and English courses;
- Write computer programs to solve engineering based problems using skills acquired in ECC's computer science and engineering courses;
- Complete computer aided design (CAD) drawings;
- For civil, industrial and mechanical engineering majors, demonstrate knowledge of fundamental principles of engineering mechanics and strength of materials;
- For electrical and computer engineering majors, demonstrate knowledge of electrical circuits;
- For biomedical or chemical engineering majors, demonstrate knowledge of biology or organic chemistry; and
- Utilize computer software applications used in engineering such as spreadsheets, word processing and basic programming.

Note: In addition to the engineering program, ECC offers engineering technology programs in the following branches: Civil, electrical, mechanical, and manufacturing. Consult the program coordinator for a complete explanation of the difference between engineering and engineering technology.

Engineering — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS: (35 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101			3
ECO	101	Principles of Economics (Macro)	3

Lab Science/Math (12 credits)

CHM	103	General Chemistry I	4
MTH	121	Calculus with Analytic Geom. I	4
MTH	122	Calculus with Analytic Geom. II	4

Physical Education (2 credits)

PHE	119	Concepts of Physical Education	2

Humanities (9 credits)

Any History course			3
Any 200-level English literature course			3
ART 100, 101, 102, or 200 **or**			
MUS 100, 108, 109, or 117			3

MAJOR COURSE REQUIREMENTS: (11-16 credits)

ENR	103	Engineering Graphics	2
ENR	105	Applied Computer Aided Design	2
ELC 230 or BIO 103 or CHM 203 or ENR 211[1]			3-4
Major requirement[2]			2-4
Major requirement[2]			2-4

ADDITIONAL COURSE REQUIREMENTS: (23-24 credits)

CSC	112	Comp. Prog. for Engr. & Tech.[3] **or**	
CSC	121	Computer Science I[3]	3-4
CHM	104	General Chemistry II[4] **or**	
CSC	122	Computer Science II[4]	4
MTH	221	Calculus with Analytic Geom. III	4
MTH	222	Differential Equations	4
PHY	103	General Physics I	4
PHY	104	General Physics II	4

Total Credits Required for Degree **69-75**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
CSC	112	Comp. Prog. for Engr. & Tech.[3] **or**	
CSC	121	Computer Science I[3]	3-4
MTH	121	Calculus with Analytic Geom. I	4
CHM	103	General Chemistry I	4
PHY	103	General Physics I	4

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
ENR	103	Engineering Graphics	2
MTH	122	Calculus with Analytic Geom. II	4
CHM	104	General Chemistry II[4] **or**	
CSC	122	Computer Science II[4]	4
PHY	104	General Physics II	4

Summer

ANT 101, POL 104, PSY 101, or SOC 101			3
Any History course			3

Third Semester

ENR	105	Applied Computer Aided Design	2
MTH	221	Calculus with Analytic Geom. III	4
ELC	230	Circuits & Systems for Engr.[1] **or**	
BIO	103	General Biology I[1] **or**	
CHM	203	Organic Chemistry I[1] **or**	
ENR	211	Engr. Mechanics I[1]	3-4
PHE	119	Concepts of Physical Education	2
Major requirement[2]			2-4

Fourth Semester

ECO	101	Principles of Economics (Macro)	3
MTH	222	Differential Equations	4
Major requirement[2]			2-4
Any 200-level English literature course			3
Any Art or Music appreciation/history course			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

[1]Computer Engineering and Electrical Engineering branches take ELC 230. Bio-Medical Engineering take BIO 103. Chemical Engineering take CHM 203. Industrial Engineering, Civil Engineering, and Mechanical Engineering take ENR 211.

[2]Select from ENR 211, ENR 212, BIO 104, CHM 204, MTH 239, or other applicable 200-level ECC or NJIT courses, depending on branch. See an ECC advisor for the full list of applicable courses and their prerequisites.

[3]Computer Engineering and Electrical Engineering branches take CSC 121. All other branches take CSC 112 or CSC 121.

[4]All take CHM 104 with the following exception: Computer Engineering take CSC 122.

Environmental Science Program

Division of Biology & Chemistry – Curriculum Code : 2107

Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Environmental Science?

This major prepares you for careers in the environmental, remediation, petroleum, and civil engineering fields as laboratory technicians, field analysts, and environmental technicians. With experience, you may find positions in research exploration, production, and consumer service.

If I major in Environmental Science, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program. However, credits earned in this associate degree program are transferable to the Environmental Science program at Rutgers-Newark. In addition, other colleges and universities will apply some or all of the courses you have taken towards a bachelor's degree, depending upon their program requirements.

Are there any requirements I must satisfy before I start taking courses in my major?

The basic skills competency test is a requirement for all majors. Major course work can begin once you have completed all developmental courses. In addition, if you are at the final level of remediation in mathematics and English, you can take either BIO 100 or CHM 100. While neither of these courses count toward graduation in this major, they provide an introduction to basic biology and chemistry that will prepare you for this program.

How long will it take for me to complete this degree?

If you do not need remedial courses and you can take 17 credits per semester, you should be able to complete the program in two years. You can shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

For answers to questions on the Environmental Science A.A.S program, call the Division at (973) 877-3430.

Upon completion of this program, graduates will be able to:

- Demonstrate mastery of the fundamental concepts of biology, geology, and chemistry;
- Perform qualitative, quantitative, and instrumental analysis of geological data and samples using standard tools and equipments;
- Use the computer for collecting and assessing laboratory and field data and for preparing reports;
- Demonstrate knowledge of environmental field standards;
- Enhance employability in the environmental workforce.

Environmental Science — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(21-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, PSY 101, SOC 101, or POL 104	3
Any 101 or higher level ANT, CJI, EDU, POL, PSY, or SOC course	3

Lab Science/Math (12 credits)

BIO	103	General Biology I	4
BIO	104	General Biology II	4
MTH	119	Pre-Calculus I	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

HST 101, 102 , 111, 112, 131, or 132	3

MAJOR COURSE REQUIREMENTS:
(24 credits)

BIO	220	Intro. To Environ. Science	4
CHM	103	General Chemistry I	4
CHM	104	General Chemistry II	4
GEO	101	Geology I	4
GEO	102	Geology II	4
MTH	120	Pre-Calculus II	4

ADDITIONAL COURSE REQUIREMENTS:
(11 credits)

CIS 137 Microcomputer Databases	3
Two Science electives	8

Electives must be selected from the following courses:

BIO	211	Microbiology	4
BIO	237	Genetics	4
CHM	203	Organic Chemistry I	4
CHM	204	Organic Chemistry II	4
PHY	113	Astronomy	4
PHY	114	Meteorology	4

Total Credits Required for Degree **64-65**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

BIO	103	General Biology I	4
CHM	103	General Chemistry I	4
ENG	101	College Composition I	3
MTH	119	Pre-Calculus I	4

Second Semester

BIO	104	General Biology II	4
CHM	104	General Chemistry II	4
ENG	102	College Composition II	3
MTH	120	Pre-Calculus II	4

Third Semester

Science Elective			4
GEO	101	Geology I	4
BIO	220	Intro. To Environ. Science	4
PHE	119 or HLT 101		2-3
Social Science requirement			3

Fourth Semester

Science Elective	4
GEO 102 Geology II	4
CIS 137 Microcomputer Spreadsheet	3
Social Science Requirement	3
History Requirement	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

General Science Program

Division of Biology & Chemistry – Curriculum Code : 0603

Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in General Science?

The General Science program provides an opportunity for students interested in health care related fields as well as those interested in teaching science in grades K-12 to complete a general basic science associate degree. Students applying to Nursing and Allied Health programs can complete the pre-requisites for these programs during the first semester. While waiting for acceptance into a professional program, students can pursue the remaining degree requirements. The curriculum will provide a solid foundation in core courses needed to major in many areas of science and health care. Emphasis is placed on the scientific method and critical analysis that will enable you to be a contributor to any scientific or medical team.

If I major in General Science, can I transfer to an upper-division college or university?

The Associate in General Science degree in General Science prepares you for transfer to upper-division colleges and universities to pursue a bachelor's degree. ECC's transfer/articulation agreements with area four-year institutions provide smooth transfer for our A.S. graduates.

If I major in General Science, how do I apply to the Nursing or Allied Health Programs?

See the curriculum guides in this catalog for specific admissions requirements for each program. You may also call the Nursing Department at (973) 877-1868 or the Division of Allied Health at (973) 877-3354.

Are there any requirements I must satisfy before I start taking courses in my major?

The basic skills competency test is a requirement for all majors. Major course work can begin once you have completed all developmental courses. In addition, if you are at the final level of remediation in mathematics, English, and/or reading, you can take BIO 100 and/or CHM 100. While these courses do not count toward graduation in this major, they provide an introduction to the basic biology and chemistry that will prepare you for this program.

How long will it take for me to complete this degree?

If you do not need remedial courses and you take an average of 17 credits per semester, you should be able to complete the program in two years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3430.

Upon completion of this program, graduates will be able to:

- Utilize critical thinking and problem-solving skills, including the scientific method and methods of scientific conversion;
- Demonstrate a mastery of the fundamental concepts of biology, chemistry, and physics;
- Perform scientific investigations using proper scientific and laboratory safety protocols;
- Successfully transfer to a four-year undergraduate program in science, health care, or education.

General Science — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(34-36 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, OR SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (11-12 credits)
Laboratory Science sequence and one Math course, or two Math courses and one laboratory science course (MTH 100 or higher)

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

Any 200-level English literature courses	3
Any History course	3
ART 100, 101, 102, or 200 or MUS 100, 108, 109, or 117	3

MAJOR COURSE REQUIREMENTS:
(24 credits)
Six or seven courses from BIO, CHM or PHY. Students should finish sequences where possible.

ADDITIONAL COURSE REQUIREMENTS:
(3 credits)
Free elective

Total Credits Required for Degree 61-63

The minimum passing grade for all courses designated BIO, CHM, MTH or PHY is "C." If you earn a grade below "C," you need to repeat that course.

For assistance with Dental Hygiene, Dental Assisting, Ophthalmic Dispensing, Respiratory Care, and Licensed Practical Nurse program requirements, see Program curricula in this catalog, or call the Division of Allied Health, 973-877-3354, or the Nursing Department 973-877-1868

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	English Composition I	3
Lab Science requirement			4
MTH 100 or higher			3 or 4
Social Science requirement			3
ART/MUS requirement			3

Second Semester

ENG	102	English Composition II	3
Lab Science Requirement			4
Social Science Requirement			3
History Requirement			3
PHE 119 or HLT 101			2 or 3

Third Semester

Any 200-level English literature course	3
Science Major requirement	4
Science Major requirement	4
Science Major requirement	4

Fourth Semester

Science Major requirement	4
Science Major requirement	4
Science Major requirement	4
Free elective	3

• If you plan to apply to the Nursing program, you must take the following three prerequisite courses and have a minimum GPA of 2.5. (See Nursing Program curriculum in this catalog)

ENG	101	College Composition I
BIO	121	Anatomy & Physiology I
CHM	101	College Chemistry I

• If you plan to apply to the Radiography program, you must take the following four prerequisite courses and have a minimum GPA of 2.5. (See Radiography Program curriculum in this catalog)

ENG	101	College Composition I
BIO	121	Anatomy & Physiology I
HSC	109	Medical Terminology
MTH	100	Introductory College Mathematics

• If you plan to apply to the Physical Therapist Assistant program, you must take the following three prerequisite courses and have a minimum GPA of 2.5. (See Physical Therapist Assistant Program curriculum in this catalog)

ENG	101	College Composition I
BIO	121	Anatomy & Physiology I
PSY	101	General Psychology I

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Geographic Information Systems Certificate

Division of Engineering Technologies and Computer Sciences – Curriculum Code : 3206
Will Earn Upon Program Completion: Certificate in Geographic Information Systems

Why major in Geographic Information Systems?

This program prepares a person for entry-level positions in the field of geographic information systems. A geographic information system (GIS) is an integrated database management system used to store, organize, retrieve, and analyze geographical and resource data for decision making. The curriculum includes computer-assisted drafting, map making, database management, surveying, and applications of geographical information systems.

GIS technicians work under the supervision of GIS engineers, managers, cartographers, surveyors, and other professionals. The need for technicians in this area continues to grow with the rapid development and implementation of GIS technology.

This program enables the student to test and obtain a National GIS Industry Certification, more commonly known as a STARS Certification -- "Spatial Technology and Remote Sensing (STARS)"-- through an ECC partner.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take me to complete this certificate?

If you do not need developmental courses and you register for an average of 15 credits each semester, you can complete the degree in ten months.

Where should I direct specific questions about this program?

Contact the Academic Affairs Office at (973) 877-3498.

Upon completion of this program, graduates will be able to:

- Demonstrate an understanding of geographic information systems and how they can be used to manage and analyze spatial information;
- Demonstrate an understanding of the principle of remote sensing and image processing;
- Explore geospatial technology's role in social, behavioral, life, and physical sciences;
- Apply critical thinking and communications skills through problem-solving projects;
- Demonstrate proficiency in GIS concepts, software, data, and application in preparation for STARS GIS Certification Examination.

Geographic Information Systems Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(6 credits)

Communications (3 credits)

ENG 101	College Composition I	3

Mathematics (3 credits)

MTH 101	Statistics and Probability	3

MAJOR COURSE REQUIREMENTS:
(21 credits)

GIS 101	Cartography/Computer Map Reading	3
GIS 111	Fundamentals of GIS	4
GIS 201	Intro. to Spatial Analysis	4
GIS 211	Advanced Applications in GIS	4
GIS 298	GIS Technology Projects	3
GIS 299	GIS Internship	3

ADDITIONAL COURSE REQUIREMENTS:
Select one from the following (3 credits)

GIS 220	GIS in Homeland Security or	
GIS 221	GIS in Law Enforcement or	
GIS 222	GIS in Economic Development	3

Total Credits Required for Certificate **30**

RECOMMENDED SEQUENCE OF COURSES:*

FULL TIME/Day - First Semester

GIS 101	Cartography/Computer Map Reading	3
GIS 111	Fundamentals of GIS	4
ENG 101	College Composition I	3
MTH 101	Statistics and Probability	3

Second Semester

GIS 201	Intro. to Spatial Analysis	4
GIS 211	Advanced Applications in GIS	4
GIS 298	Application Projects	3
GIS Elective		3

Summer Semester

GIS 299	GIS Internship	3

Part-time/Evening - (First Quarter)

GIS 101	Cartography/Computer Map Reading	3
ENG 101	College Composition I	3
MTH 101	Statistics and Probability	3

Second Quarter

GIS 111	Fundamentals of GIS	4
GIS 201	Intro. to Spatial Analysis	4

Third Quarter

GIS 211	Advanced Applications in GIS	4
GIS 298	GIS Application Projects	3

Fourth Quarter

GIS Elective		3
GIS 299	GIS Internship	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Health Science Program

Division of Allied Health — Curriculum Code: 2114
Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Health Science?

The Health Science program provides an opportunity for health care personnel and allied health majors to complete a general health science associate degree. Students receive up to 24 credits for previous post secondary professional educational or certificate training in an allied health profession. Completion of the degree requires a minimum of 33-36 additional college credits as prescribed in the curriculum. Bachelor's degree completion can lead to employment in health education or entry-level health care administration positions.

If I major in Health Science, can I transfer to an upper-division college or university?

The Associate in Science degree in Health Science may be transferred to the Bachelor of Science in Health Science degree program offered jointly by UMDNJ and New Jersey City University. Also, Thomas Edison State College will apply most or all the courses you have taken toward a Bachelor of Science degree program in Health Science or a Bachelor of Science degree program in Applied Science and Technology.

Are there any requirements I must satisfy before I start taking courses in my major?

Complete an application to Essex County College and indicate Health Science as your desired major (code 2114). Complete any remedial or ESL course work indicated by placement testing. Submit a copy of your diploma or transcript from the post secondary educational institution from which you received your professional training and current certificate or licensure for evaluation.

Who should apply?

Any health care professional who holds licensure or certification in their specialty and who received their training in any accredited or state licensed post secondary allied health training program. This program is particularly useful for health care professions for which no specific degree is offered. In addition, any individual who completed college level coursework in nursing or any allied health discipline, but did not complete a specific degree, may apply their professional credits toward the completion of this degree.

How long will it take for me to complete this degree?

If you do not need developmental course work, you can complete the degree in two years by taking 15 to 16 credits per semester. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Call the Division at (973) 877-3354.

Upon completion of this program, graduates will be able to:

- Advance to a baccalaureate program specializing in health education, health care informatics, or health care administration;
- Secure job promotions within health-related fields for which no specific degree exists; and
- Prepare for employment based on the individualized curriculum that has been completed in fields such as health services administration, health computing, or health education.

Health Science — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(33-36 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (10-12 credits)

A Lab Science sequence and a Math course (100 or higher) **or** two Math courses (100 or higher) and a Lab Science course	10-12

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

Any 200-level English literature courses	3
Any History course	3
ART 100, 101, 102, or 200 or MUS 100, 108, 109, or 117	3

MAJOR COURSE REQUIREMENTS:
(3-24 credits)

Credit from professional program to include, but not limited to, Nursing, Dental Assisting, Dental Hygiene, Health Service Management, Radiography, Respiratory Care, Paramedic, Physical Therapist Assistant, Vision Care Technology, Medical Laboratory Technician, Military Medic, Ultrasound, and/or any accredited or state licensed post high school allied health training program which is licensed or certified by examination. College credit will be transferred as a block; technical school or certificate credit will be weighted and awarded as a block.

ADDITIONAL COURSE REQUIREMENTS:
(Remaining credits)

Additional courses selected should be based upon the intended major at the transferring institution or intended job function. Select from courses listed in the right column, in consultation with the Health Science advisor.

Total Credits Required for Degree **60**

ADDITIONAL COURSE REQUIREMENTS (Cont.):

Select from the following:

ACC	101	Principles of Accounting I	4
BIO	103	General Biology I	4
BIO	104	General Biology II	4
BIO	121	Anatomy and Physiology I	4
BIO	122	Anatomy and Physiology II	4
BIO	211	Microbiology	4
BIO	241	Pathophysiology	3
BIO	251	Pharmacology	3
BUS	101	Business Organization & Mgmt.	3
BUS	201	Principles of Management	3
BUS	207	Leadership and Supervision in Orgs.	3
BUS	221	Human Resource Mgmt.	3
CHM	101	College Chemistry I	4
CHM	102	College Chemistry II	4
CHM	103	General Chemistry I	4
CHM	104	General Chemistry II	4
CIS	107	Computer Literacy	3
CIS	131	Microcomputers in Business	3
CSC	121	Computer Science I	4
CSC	122	Computer Science II	4
ENG	109	Effective Speech	3
HSC	101	Introduction to Nutrition	3
HSC	102	Nutrition Through the Life Cycle	3
HSC	109	Intro. to Medical Terminology	3
HSC		Any other course	3
MTH	101	Statistics & Probability I	3
MTH	102	Statistics & Probability II	3
MTH	116	Medical Mathematical Calculations	1
SOC	199	Behavioral Science for Health Professions	3
SOC	201	Social Gerontology	3
SOC	207	Understanding Death & Dying	3
SPN	100	Practical Spanish	3
SPN	101	Elementary Spanish I	3
IDSTXXXX		UMDNJ courses in Interdisciplinary Studies (**Note:** 5 IDST core courses required for the B.S. are available on the WEB. See the program advisor for details.)	9 max.

RECOMMENDED SEQUENCE OF COURSES:*

Sequence of courses will be determined on an individualized basis. See the program advisor for details.

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Human and Social Services Program

Division of Social Sciences — Curriculum Code: 2202
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Human and Social Services?

- To obtain a broad-based professional education in preparation for a wide variety of jobs such as: Social services case aide, addiction counselor, youth services worker, gerontology worker, family services worker, crisis counselor;
- To begin a career where you have the satisfaction of helping individuals and communities.

If I major in Human and Social Services, can I transfer to an upper-division college or university?

This program is designed for immediate employment. However, four-year institutions will apply most or all of your courses toward a bachelor's degree, depending upon their program requirements. Consult your departmental advisor to obtain information about transferability.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in mathematics, English and/or reading before taking courses at the 100 level and above.

How long will it take for me to complete this degree?

If you do not need developmental course work and you register for an average of 17 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3250 for referral to a faculty advisor or counselor.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of the network of agencies and institutions that provide human and social services to individuals, families, and communities, and also their structure, policies, and procedures;
- Demonstrate knowledge of the scope, importance, and components of ethical and professional standards of the human services professions and service providers;
- Demonstrate familiarity with the basic knowledge, skills, and attitudes of professional practice in human services occupations;
- Demonstrate knowledge of the theoretical approaches that inform human services practice in social work, gerontology, addictions counseling, psychology, and treatment; and
- Demonstrate familiarity with the skills involved in engaging clients in a helping relationship and facilitating positive behavioral changes.

Human and Social Services — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(20-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

PSY	101	General Psychology I	3
SOC	111	Helper Theory	3

Lab Science/Math (4 credits)
Any lab science or math course
(If math, MTH 100 or higher)
(Recommended: BIO 102 or MTH 101) 3-4

Physical Education (2-3 credits)
PHE 119 or HLT 101 2-3

Humanities (3 credits)
Any History course 3

MAJOR COURSE REQUIREMENTS:
(30 credits)

PSY	209	Abnormal Psychology or	
PSY	225	Child and Adolescent Abnormal Psychology	3
PSY	250	Theory and Practice of Counseling and Psychotherapy	3
PSY	251	Counseling and Treatment of Addictions	3
SOC	121	Social Services Policies & Procedures	3
SOC	207	Understanding Death and Dying	3
SOC	228	Human and Social Services Fieldwork I	3
SOC	229	Human and Social Services Internship Seminar I	3
SOC	230	Human and Social Services Fieldwork II	3
SOC	231	Human and Social Services Internship Seminar II	3
SOC	250	Alcohol & Drug Use in American Society	3

ADDITIONAL COURSE REQUIREMENTS:
(12 credits)

Select three courses from:
CJI 211, PSY 210, PSY 219, PSY 232, SOC 108, SOC 153, SOC 201, SOC 252 9

Free elective 3
(Recommended: CIS 107 or SPN 100 or MTH 101)

Total Credits Required for Degree 62-64

RECOMMENDED SEQUENCE OF COURSES:**

First Semester

ENG	101	College Composition I	3
PSY	101	General Psychology I	3
SOC	111	Helper Theory	3
PHE/HLT Requirement			2-3
Free elective			3

Second Semester

ENG	102	College Composition II	3
SOC	121	Social Services Policies & Procedures I	3
PSY	209	Abnormal Psychology **or**	
PSY	225	Child and Adolescent Abnormal Psychology	3
Math	100 or higher		3-4
Humanities requirement			3

Third Semester

BIO	102	College Biology II	4
SOC	207	Understanding Death & Dying	3
SOC	228	Human and Social Services Fieldwork I	3
SOC	229	Human and Social Services Internship Seminar I	3
(SOC 228 and 229 must be taken together)			
Additional course requirement			3

Fourth Semester

PSY	251	Counseling and Treatment of Addictions	3
SOC	250	Alcohol & Drug Use in American Society	3
SOC	230	Human and Social Services Fieldwork II	3
SOC	231	Human and Social Services Internship Seminar II	3
(SOC 230 and 231 must be taken together)			
Additional course requirement			3
Additional course requirement			3

* In acknowledging the distinctive and specialized education and training that social workers, addiction counselors, and psychologists obtain to provide a broad array of mental health and rehabilitative services, the Human and Social Services Program has established several concentrations. Students in the social work/gerontology concentration should select SOC 108 and SOC 201 and an additional 3 credits from "Additional Course Requirements." Students in the addictions counseling concentration should select CJI 211, SOC 252, and SOC 153. Students in the psychology concentration should select PSY 210, PSY 219, and PSY 232.

Note: Educational requirements for Certified Alcohol and Drug Counselor in New Jersey are met by CJI 211, PSY 251, SOC 153, SOC 250, SOC 252, SOC 228/229, and SOC 230/231.

****NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Human and Social Services Program

Division of Social Sciences – Curriculum Code: 3057
Will Earn Upon Program Completion: Certificate in Human and Social Services

Why Major in Human and Social Services?

To begin a career where you have the satisfaction of helping individuals and communities.

If I major in Human and Social Services, can I transfer to an upper-division college or university?

This program is designed for immediate employment. However, four-year institutions will apply most or all of your courses toward a bachelor's degree, depending upon their program requirements. Consult your departmental advisor to obtain information about transferability.

Are there any requirements I must satisfy before I start taking course in my major?

Based on your placement test scores, you may have to take developmental courses in mathematics, English and/or reading before taking courses at the 100 level and above.

How long will it take me to complete this certificate?

If you do not need developmental coursework and you attend full time, you can complete the certificate in two semesters. Part-time students can complete the program in two years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3250 for referral to a faculty advisor, or call Admissions at (973) 877-3100.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of the network of agencies and institutions that provide human and social services to individuals, families, and communities, and also their structure, policies, and procedures;
- Conduct client intake and process client referrals to appropriate support services; and
- Conduct home visitations and participate in client mentoring projects.

Students must complete Division of Youth and Family Services Para-Professional Training or related program approved by the Social Sciences Division prior to admission to the program.

Human and Social Services — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(6 credits)

Communications (3 credits)

ENG	101	College Composition I	3
ENG	109	Effective Speech	3

MAJOR COURSE REQUIREMENTS:
(21 credits)

PSY	101	General Psychology	3
PSY	250	Theory and Practice of Counseling & Psychotherapy	3
SOC	101	Introduction to Sociology	3
SOC	111	Helper Theory	3
SOC	121	Social Service Policies and Procedures	3
SOC	228	Human and Social Services Fieldwork I	3
SOC	229	Human and Social Services Internship Seminar I	3

Total Credits Required for Certificate **27**

RECOMMENDED SEQUENCE OF COURSES:**

First Semester

ENG	101	College Composition I	3
ENG	109	Effective Speech	3
PSY	101	General Psychology	3
SOC	101	Introduction to Sociology	3
SOC	111	Helper Theory	3

Second Semester

PSY	250	Theory and Practice of Counseling & Psychotherapy	3
SOC	121	Social Service Policies and Procedures	3
SOC	228	Human and Social Services Fieldwork I	3
SOC	229	Human and Social Services Internship Seminar I	3

**NOTE: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Information Systems Office Operations Program

Division of Business — Curriculum Code: 3301
Will Earn Upon Program Completion: Certificate in Information Systems Office Operations

Why major in Information Systems Office Operations?

This program prepares individuals for employment in designing, developing, implementing, and maintaining the systems necessary to deliver information to all levels of an organization. Students receive hands-on instruction in the use and development of databases and spreadsheets. Areas covered include desktop publishing, word processing, and the use of graphics, digital camera, and sound files to make PowerPoint presentations. Students learn to use the Internet to access information as well as to plan, create and maintain static and interactive web pages.

If I major in Information Systems Office Operations, can I transfer to an upper-division college or university?

The major is designed to prepare students for entry-level employment in the microcomputer field, or to upgrade employees' professional knowledge for career advancement. While the program is not designed for transfer to a baccalaureate program, Essex County College will apply some or most of the courses you have taken toward an associate degree. Consult your faculty advisor for more information.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this certificate?

If you do not need developmental course work and you register for an average of 15 credits each semester, you can complete the certificate in one year. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Business Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Use microcomputer applications including Microsoft Word, Microsoft Excel, Microsoft Access, Microsoft Outlook, and Microsoft PowerPoint;
- Integrate the applications in a work environment;
- Customize major software applications packages found in the business world;
- Use the basic techniques of computer/keyboarding and formatting for preparing a wide range of business correspondence;
- Plan, create, and manipulate a database for typical business needs;
- Use PowerPoint to create presentations, present slide shows, create a self-running show using animation effects, and distribute presentations to remote audiences;
- Use desktop publishing software to create high-impact and effective marketing materials; and
- Create and maintain static and dynamic web pages integrating JavaScript and HTML.

Information Systems Office Operations — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(3 credits)

Communications (3 credits)

ENG	101	College Composition I	3

MAJOR COURSE REQUIREMENTS:
(27 credits)

OST	105	Microcomputer Keyboarding and Document Processing	3
CIS	135	Microcomputer Spreadsheets	3
CIS	136	Desktop Publishing for IBM Compatibles	3
CIS	137	Microcomputer Databases	3
CIS	139	Introduction to Multimedia	3
CIS	152	Internet Concepts	3
CIS	153	Adv. Internet Concepts and Applications	3
CIS	235	Adv. Microcomputer Spreadsheets	3
CIS	237	Adv. Microcomputer Databases	3

Total Credits Required for Certificate **30**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

OST	105	Microcomputer Keyboarding and Document Processing	3
ENG	101	College Composition I	3
CIS	135	Microcomputer Spreadsheets	3
CIS	137	Microcomputer Databases	3
CIS	152	Internet Concepts	3

Second Semester

CIS	136	Desktop Publishing for IBM Compatibles	3
CIS	139	Introduction to Multimedia	3
CIS	153	Adv. Internet Concepts and Applications	3
CIS	235	Adv. Microcomputer Spreadsheets	3
CIS	237	Adv. Microcomputer Databases	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Internet-Web Page Design Specialist Program

Division of Business — Curriculum Code: 3304
Will Earn Upon Program Completion: Certificate in Internet-Web Page Design Specialist

Why major in Internet-Web Page Design?

Individuals and businesses today are increasingly turning to the World Wide Web to advertise and sell products and services. The demand for individuals who can create websites is growing rapidly. This program prepares students to acquire the skills needed to create interactive and complex Web sites. The program enables students to design Web sites whose look and feel effectively communicate an organization's message to its intended audience.

If I major in Internet-Web Page Design, can I transfer to an upper-division college or university?

The major is designed to prepare students for entry-level positions as Webmasters. While the program is not designed for transfer to a baccalaureate program, Essex County College will apply some or most of the courses you have taken toward an associate degree. Consult your faculty advisor for more information.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this certificate?

If you do not need developmental course work, and you register for 15 credits, you may complete the certificate in one semester.

Where should I direct specific questions about this program?

Contact the Business Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Conduct research using the Internet;
- Plan layouts and build and maintain Web pages;
- Use Hypertext Markup Language, the source code for creating Web pages;
- Develop advanced page layouts using tools such as nested tables, frames, and cascading style sheets;
- Use the principles of graphic design;
- Create interactive Web content with JavaScript, the most common scripting language used on the Internet;
- Create pop-up windows and scrolling messages; and
- Generate complex and dynamic Web pages and forms.

Internet-Web Page Design Specialist — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
None

MAJOR COURSE REQUIREMENTS:
(15 credits)

CIS	136	Desktop Publishing for IBM Compatibles	3
CIS	139	Introduction to Multimedia	3
CIS	152	Internet Concepts	3
CIS	153	Adv. Internet Concepts and Applications	3
ART	161	Computer Enhanced Layout and Design	3

Total Credits Required for Certificate **15**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

CIS	136	Desktop Publishing for IBM Compatibles	3
CIS	139	Introduction to Multimedia	3
CIS	152	Internet Concepts	3
CIS	153	Adv. Internet Concepts and Applications	3
ART	161	Computer Enhanced Layout and Design	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Internetworking Technology Program

Division of Engineering Technologies and Computer Science — Curriculum Code: 3204
Will Earn Upon Program Completion: Certificate in Internetworking Technology

Why major in Internetworking Technology?

The Internetworking Technology program prepares students for entry-level positions in computer networking. Typical positions for qualified graduates include: Network engineer, network administrator, network technician, technical support specialist, and LAN or network specialist. Duties may include working as part of a team that has the responsibility of maintaining, implementing, and managing corporate information and communications infrastructures.

If I major in Internetworking Technology can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this certificate?

If you do not need developmental course work and follow the suggested sequence, you can complete the program in one academic year.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Install and configure internetworking hardware such as routers and switches;
- Analyze and interpret performance statistics of network operations;
- Manage network operations in a LAN or WAN environment; and
- Pass Cisco Systems CCNA certification examination.

Internetworking Technology — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(7 credits)

Communications (3 credits)

ENG	101	College Composition I	3

Math (4 credits)

MTH	100	Introduction to College Mathematics	4

MAJOR COURSE REQUIREMENTS:
(16 credits)

CSC	110	Routing & Switching Fund.	4
CSC	111	Routing & Switching WAN	4
CSC	211	Internetworking	4
CSC	212	Advanced Internetworking	4

Total Credits Required for Certificate **23**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

CSC	110	Routing & Switching Fund.	4
CSC	111	Routing & Switching WAN	4
ENG	101	College Composition I	3

Second Semester

MTH	100	Introduction to College Mathematics	4
CSC	211	Internetworking	4
CSC	212	Advanced Internetworking	4

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Legal Assistant Program (Paralegal)

Division of Social Sciences — Curriculum Code: 3054
Will Earn Upon Program Completion: Certificate in Legal Assistant

Why major in Legal Assisting?

Law firms, corporations, government agencies, title companies, insurance companies, state and federal courts, and other entities are increasingly seeking qualified paralegals to assist with a wide variety of legal tasks. Duties of paralegals typically include conducting interviews, investigations, and legal research, preparing legal documents and memoranda, assisting with clients, and being involved in the daily operations of the law office.

If I major in Legal Assisting, can I transfer to an upper-division college or university?

Students who enroll in the certificate program must already have at least an associate degree in any discipline. While the program is designed to prepare students for entry-level legal positions, the courses will transfer to four-year institutions based on existing transfer and articulation agreements with area institutions. Consult your faculty advisor for more information.

Are there any requirements I must satisfy before I start taking courses in my major?

This program is open to those individuals who already possess at least an associate degree in any discipline.

How long will it take for me to complete this certificate?

You can complete the certificate program in one year by taking 2-3 courses in each of the fall, spring, and summer semesters.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3250.

Upon completion of this program, graduates will be able to:

- Articulate the role of a legal assistant in today's legal system;
- Demonstrate a thorough knowledge of the American legal system;
- Demonstrate a thorough knowledge of the principles of legal ethics;
- Demonstrate a thorough knowledge of the substantive principles of law;
- Articulate legal principles in both oral and written form;
- Demonstrate the ability to access, locate, and research the law by both traditional and electronic methods; and
- Demonstrate a thorough understanding of the litigation process.

Note: The Legal Assistant Studies Program prepares students to work under the supervision of an attorney. A paralegal may not engage in the unauthorized practice of law. Only attorneys can provide legal services directly to the public.

Legal Assistant (Paralegal) — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
None

MAJOR COURSE REQUIREMENTS:
(21 credits)

LAS	101	Intro. to Legal Assistant Studies	3
LAS	102	Legal Research & Writing	3
LAS	105	Torts	3
LAS	107	Contracts	3
LAS	202	Advanced Legal Research & Writing	3
LAS	205	Administrative Law	3
LAS	206	Litigation Procedures	3

ADDITIONAL COURSE REQUIREMENTS:

To enter this certificate program, you must possess at least an Associate Degree in any discipline and be able to demonstrate that you have met the general education requirements of Essex County College.

Total Credits Required for Certificate **21**

RECOMMENDED SEQUENCE OF COURSES:*

LAS	101	Intro. to Legal Assistant Studies	3
LAS	105	Torts	3
LAS	107	Contracts	3
LAS	206	Litigation Procedures	3
LAS	102	Legal Research & Writing	3
LAS	202	Advanced Legal Research & Writing	3
LAS	205	Administrative Law	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Legal Assistant Studies Program

Division of Social Sciences — Curriculum Code: 2013
Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Legal Assistant Studies?

This program prepares you to work in a variety of legal settings, such as law firms, corporations, and government entities. The legal assistant typically performs a wide variety of tasks including interviewing clients, investigating cases, preparing legal documents, performing legal research, writing legal memoranda, and assisting in trials and appeals. In addition to providing a thorough knowledge of legal principles, this program develops students' practical skills to prepare them to work effectively in any legal environment.

If I major in Legal Assistant Studies, can I transfer to an upper-division college or university?

The Associate in Science degree in Legal Studies prepares you to transfer to upper-division colleges and universities to complete your bachelor's degree. ECC's transfer/articulation agreements with area four-year institutions ensure a smooth transfer for our A.S. graduates.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this degree?

If you do not need developmental courses and you take an average of 17 credits per semester, you should be able to complete the program in two years.

Where should I direct specific questions about this program?

Call the Division at (973) 877-3250.

Upon completion of this program, graduates will be able to:

- Demonstrate skills in critical thinking, problem-solving and effective communication;
- Articulate the role of a legal assistant in today's legal system;
- Demonstrate a thorough knowledge of the American legal system;
- Demonstrate a thorough knowledge of the principles of legal ethics;
- Demonstrate a thorough knowledge of the substantive principles of law;
- Articulate legal principles in both oral and written form;
- Demonstrate the ability to access, locate, and research the law by both traditional and electronic methods; and
- Demonstrate a thorough understanding of the litigation process.

Note: The Legal Assistant Studies Program prepares students to work under the supervision of an attorney. A paralegal may not engage in the unauthorized practice of law. Only attorneys can provide legal services directly to the public.

Legal Assistant Studies — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(33-36 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101 (POL 104 is recommended)	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (10-12 credits)

Two Math courses (MTH 100, 113, 114, 117, 119, or 120)	6-8
Lab Science course	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

Any History course	3
Any 200-level English literature course	3
ART 100, 101, 102, or 200 **or** MUS 100, 108, 109, or 117	3

MAJOR COURSE REQUIREMENTS:
(24 credits)

LAS	101	Intro. to Legal Assistant Studies	3
LAS	102	Legal Research & Writing	3
LAS	105	Torts	3
LAS	107	Contracts	3
LAS	202	Advanced Legal Research & Writing	3
LAS	204	Business Organization, Government Regulation, and Bankruptcy	3
LAS	205	Administrative Law	3
LAS	206	Litigation Procedures	3

ADDITIONAL COURSE REQUIREMENTS:
(6 credits)

LAS	225	Law Office Management and Field Experience and a legal elective **or** two legal electives	6

Total Credits Required for Degree **63-66**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

LAS	101	Intro. to Legal Assistant Studies	3
LAS	105	Torts	3
ENG	101	College Composition I	3
Social Science requirement			3
Math requirement			3-4

Second Semester

LAS	102	Legal Research & Writing	3
LAS	107	Contracts	3
Math Requirement			3-4
ENG	102	College Composition II	3
Social Science requirement			3

Third Semester

LAS	202	Advanced Legal Research & Writing	3
LAS	204	Business Organization, Government Regulation, and Bankruptcy	3
LAS	206	Litigation Procedures	3
English literature requirement			3
History requirement			3
Physical Education/Health requirement			2-3

Fourth Semester

LAS	205	Administrative Law	3
Legal elective			3
LAS	225	Law Office Management and Field Experience **or**	
Legal elective			3
Art/Music requirement			3
Lab Science requirement			4

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Legal Nurse Program

Division of Social Services — Curriculum Code: 3056
Will Earn Upon Program Completion: Certificate in Legal Nurse

Why become a Legal Nurse?

Corporations, law firms, insurance companies, HMOs, risk management groups, government agencies, and hospitals are seeking qualified personnel trained in medicine and the law. This program within the Center for Legal Education offers paralegal education and training to nurses who are RNs and who wish to be involved in the legal profession as legal nurse consultants or nurse paralegals.

Are there any requirements I must satisfy before I start taking courses in the program?

The program is open to registered nurses with an Associate Degree who have at least 2000 hours of nursing experience. Diploma school nurses may be admitted upon review of transcripts.

How long will it take for me to complete this certificate?

You can complete the certificate in one year by taking two to three courses in each of the fall, spring, and summer semesters.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3250.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of the history and evolution of the legal nurse profession;
- Explain the role of the legal nurse in the legal environment;
- Demonstrate knowledge of the American legal system;
- Demonstrate knowledge of medical/legal ethics;
- Demonstrate a thorough knowledge of the applicable substantive principles of law;
- Articulate legal principles in both oral and written form;
- Demonstrate the ability to access, locate, and research the law by both traditional and electronic methods;
- Demonstrate a thorough understanding of the litigation process and the role of the legal nurse therein; and
- Demonstrate knowledge of the business and marketing principles of an independent legal nurse practitioner.

Note: The Legal Nurse Program prepares students to work under the supervision of an attorney. A paralegal may not engage in the unauthorized practice of law. Only attorneys can provide legal services directly to the public.

Legal Nurse — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
None

MAJOR COURSE REQUIREMENTS:
(21 credits)

LAS	102	Legal Research & Writing	3
LAS	105	Torts	3
LAS	108	Introduction to Nurse Paralegalism	3
LAS	202	Advanced Legal Research and Writing	3
LAS	205	Administrative Law	3
LAS	206	Litigation Procedures	3
LAS	211	Medical Legal Ethics	3

ADDITIONAL REQUIREMENTS:

To enter this program, you need at least an Associate Degree in Nursing and be able to demonstrate that you have met the general education requirements of Essex County College. You also need at least 2000 hours of nursing experience.

Total Credits Required for Certificate **21**

RECOMMENDED SEQUENCE OF COURSES:*

LAS	102	Legal Research & Writing	3
LAS	105	Torts	3
LAS	108	Introduction to Nurse Paralegalism	3
LAS	202	Advanced Legal Research and Writing	3
LAS	205	Administrative Law	3
LAS	206	Litigation Procedures	3
LAS	211	Medical Legal Ethics	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Legal Specialist Program (Secretarial)

Division of Social Science — Curriculum Code: 3055
Will Earn Upon Program Completion: Certificate in Legal Specialist

Why become a Legal Specialist?

This certificate program prepares students for employment opportunities as legal secretaries in law firms, corporate legal departments, government agencies, banks, legal aid societies, and federal and state courts. The program, offered within the Center for Legal Education at ECC, teaches students basic legal principles, legal terminology, and business writing, and provides a broad background in legal office management. Students also develop skills in clerical, technical, and administrative areas.

Are there any requirements I must satisfy before I start taking courses in the program?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this certificate?

If you do not need developmental course work, you can complete the Certificate in three semesters.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3250.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of the structure of the American legal system;
- Explain and apply the concepts of civil and criminal law, substantive and procedural law and jurisdiction;
- Demonstrate knowledge of the basic substantive areas of law including contracts, property, torts, and family law;
- Demonstrate knowledge of the ethical practices of the legal profession;
- Demonstrate competence in carrying out a variety of administrative and clerical responsibilities necessary to run an organization effectively;
- Coordinate a legal office's administrative activities and ensure that information is disseminated to staff and clients through the use of electronic mail, interoffice mail, or the postal service;
- Demonstrate dependability, initiative, adherence to confidentiality standards, and interest in keeping pace with developments in the field;
- Use personal computers to run software applications;
- Prepare a variety of correspondences, prepare legal documents, schedule appointments, and handle client contact in a professional manner;
- Demonstrate the ability to manage time effectively;
- Operate a variety of office equipment; and
- Demonstrate the ability to keyboard at acceptable speeds, organize files and proofread.

Legal Specialist (Secretarial) — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(3 credits)

Communications (3 credits)

ENG	101	College Composition I	3

MAJOR COURSE REQUIREMENTS:
(33 credits)

OST	106	Keyboarding and Formatting I	4
OST	107	Keyboarding and Formatting II	4
OST	121	Business Communication	3
OST	215	Specialized Machine Transcription	3
OST	230	Legal Office Procedures	3
OST	250	Word/Information Processing Applications I	4
OST	251	Word/Information Processing Applications II	3
LAS	106	Introduction to Law	3
CIS	131	Microcomputers in Business	3
CIS	152	Internet Concepts	3

Total Credits Required for Certificate **36**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

OST	106	Keyboarding and Formatting I	4
LAS	106	Introduction to Law	3
ENG	101	College Composition I	3
CIS	131	Microcomputers in Business	3

Second Semester

OST	107	Keyboarding and Formatting II	4
OST	121	Business Communication	3
OST	250	Word/Information Processing I	4
CIS	152	Internet Concepts	3

Third Semester

OST	215	Specialized Machine Transcription	3
OST	230	Legal Office Procedures	3
OST	251	Word/Information Processing Applications II	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Liberal Arts Program

Division of Humanities — Curriculum Code: 0199
Will Earn Upon Program Completion: Associate in Arts (A.A.) Degree

Why major in Liberal Arts?

The program provides a broad foundation in languages and literature, the social sciences, humanities, mathematics, and the sciences. Teaching, law, publishing, government service, and business are only a few of the many possibilities open to Liberal Arts majors; indeed many employers like to hire Liberal Arts graduates for having received a solid and comprehensive education — in effect a well-rounded education in the classical sense. The program is also recommended to students without a definite vocational goal who wish to explore opportunities offered by many fields before deciding upon a career.

If I major in Liberal Arts, can I transfer to an upper-division college or university?

The Associate in Arts degree in Liberal Arts prepares you to transfer to upper-division colleges and universities to pursue a bachelor's degree. You may be able to take advantage of our articulation agreements with a large number of New Jersey colleges and universities.

Are there any requirements I must satisfy before I start taking courses in my major?

There are no specific requirements if you score at the college level on the basic skills competency test.

How long will it take for me to complete this degree?

If you do not need developmental course work, you can complete the degree in two years by taking 16 to 18 credits per semester. Enrolling in the summer sessions can shorten this time.

Where should I direct specific questions about this program?

Call the Division at (973) 877-3319/3320.

Upon completion of this program, graduates will be able to:

- Demonstrate skills in critical thinking, problem-solving, and effective communication;
- Demonstrate knowledge and appreciation of world cultures across history;
- Prepare research projects utilizing the Modern Language Association guidelines;
- Utilize the research library, the Internet, and other electronic sources for preparing research projects;
- Apply the principles of effective rhetoric in oral presentations and in writing assignments such as expository essays, creative writing, and persuasive arguments;
- Demonstrate critical understanding of a variety of literary works of different genres;
- Utilize word processing in the preparation of papers;
- Demonstrate an understanding of the visual and/or musical arts and/or drama reflecting various periods, styles and backgrounds of artists, composers, and performers; and
- Apply various techniques in the creation of artistic work.

Liberal Arts — A.A. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(45-48 credits)

Communications (9 credits)

ENG 101	College Composition I	3
ENG 102	College Composition II	3
ENG	105, 108, 109, 141, 142, 151, or 169	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (6 credits)

A Lab Science sequence and a Math course (100 or higher) **or** two Math courses (100 or higher) and a Lab Science course:	
MTH (100 level or higher)	3-8
BIO 101-102, 103-104, or 121-122	
CHM 101-102 or 103-104	
PHY 101-102, 103-104, or PHY113-114	4-8

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (18 credits)

Any two 200-level English literature courses	6
Any History sequence	6
ART 100, ART 101, 102, or 200 **or** MUS 100, 108, 109, or 117	3
Any one of the following as Humanities elective: ART, CIN, DAN, DRA, ENG, CMS, HST, MUS, or PHI course; ENG 105, 108, 141, 142, 151, 169; ARB 101, 102; FRN 101, 102, 201, 202; ITL 101, 102, 201; SPN 100, 101, 102, 201, 202.	3

MAJOR COURSE REQUIREMENTS:
(9 credits)

Humanities elective	3
Humanities or Social Science elective	3
Social Science elective	3

ADDITIONAL COURSE REQUIREMENTS:
(6-9 credits)

Free electives	6-9
Total Credits Required for Degree	**60-66**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG 101	College Composition I	3
PSY 101	General Psychology I	3
Art/Music requirement		3
Physical Education/Health requirement		2-3
HST 101	World Civilization I	3

Second Semester

ENG 102	College Composition II	3
Social Science requirement		3
Math/Lab Science requirement		4
HST 102	World Civilization II	3
Humanities elective		3

Third Semester

ENG 109	Effective Speech	3
ENG 205	The Western Literary Tradition	3
Math/Lab Science requirement		4
Humanities or Social Science elective		3
Free elective		3

Fourth Semester

ENG 215	Modern Literary Masterpieces	3
BIO 102	College Biology II	4
Humanities elective		3
Social Science elective		3
Free elective		3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Liberal Arts: Communications Option

Division of Humanities — Curriculum Code: 019C
Will Earn Upon Program Completion: Associate in Arts (A.A.) Degree

Why major in Communications?

The program is designed for students interested in gaining a general working knowledge of the media and communications industry or who intend to transfer to a four-year college to complete a bachelor's degree in this rapidly expanding field. Communications and media-related studies include television production, film production, radio production, and mass communication. Since Communications is technology driven, it involves working with applications and elements that are ever changing. At Essex, the program utilizes state-of-the-art broadcast equipment to provide students with knowledge in producing, writing, directing, editing, technical operations, and announcing. With advanced degrees and relevant job experience, students can secure rewarding positions in each of these areas. Administrative support and assistant positions are also available to qualified individuals.

If I major in Communications, can I transfer to an upper-division college or university?

The program prepares you for transfer to upper-division colleges and universities to complete a bachelor's degree in the field. ECC's transfer/articulation agreements with area four-year institutions provide smooth transfer for our A.A. graduates.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics. You also need a grade of "C" or better in English 101 for taking most of the major courses.

How long will it take for me to complete this degree?

If you do not need developmental course work and you register for an average of 15 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3319/3320.

Upon completion of this program, depending on the major courses selected, graduates will be able to:

- Demonstrate knowledge of the techniques and principles of television or radio production;
- Explain the actual operation of a television or radio production;
- Identify the different genres and styles of films through observation and analysis;
- Demonstrate an understanding of the make-up of film content, including the make-up of African American film content;
- Demonstrate an appreciation of the art of filmmaking;
- Write in all the major script styles using industry standards in script formatting;
- Demonstrate an understanding of story structure;
- Analyze and critique a media script.
- Operate studio video and audio equipment and demonstrate proficiency in post-production editing;
- Explain the form and theory of electronic and print media including radio, television, Internet, film, newspapers, magazines, and books; and
- Evaluate the history, significance and importance of each media form through cross media analysis.

Liberal Arts: Communications Option
A.A. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(45-48 credits)

Communications (9 credits)

ENG 101	College Composition I	3
ENG 102	College Composition II	3
ENG 105, 108, 109, or 169 (Recommended: 109)		3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (10-12 credits)

Two Math courses (100 or higher) and a Lab Science course or one Math course (100 or higher) and a Lab Science sequence:

MTH (any 100 level or higher)	3-8
BIO 101-102 or 121-122; CHM 101-102 or 103-104; PHY 101-102, 103-104, or 113-114	3-8

Physical Education (2-3 Credits)

PHE 119 or HLT 101	2-3

Humanities (18 credits)

Any History sequence	6
Any two 200-level English literature courses	6
ART 100, 101, 102, or 200 **or** MUS 100, 108, 109, or 117	3
Any one of the following as Humanities elective: ART, CIN, DAN, DRA, ENG (Literature), MUS or PHI course; ENG 105, 108, 141, 142, 151, 169; ARB 101, 102; FRN 101, 102, 201, 202; ITL 101, 102, 201; SPN 100, 101, 102, 201, 202.	3

MAJOR COURSE REQUIREMENTS:
(12 credits)

ENG 151	Mass Communications	3
Any three of the following:		9
CIN 101	Introduction to the Art of Film	
CIN 103	History of African American Film	
CMS 110	Fundamentals of Television Production	
CMS 113	Writing for Film & Television	
CMS 121	Fundamentals of Filmmaking	
CMS 136	Radio Broadcasting and Prod.	
CMS 210	Television Production II	
CMS 219	Video Production	

ADDITIONAL COURSE REQUIREMENTS:
(3 credits)

Free elective	3

Total Credits Required for Degree: 60-63

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG 151	Mass Communications	3
ENG 101	College Composition I	3
Social Science requirement		3
Math requirement		3-4
History requirement		3

Second Semester

CMS or CIN course		3
ENG 102	College Composition II	3
Social Science requirement		3
Math requirement		3-4
History requirement		3

Third Semester

CMS or CIN course		3
Health or Physical Education		2-3
English literature course		3
ENG 109	Effective Speech	3
Lab Science requirement		4

Fourth Semester

CMS or CIN course	3
Free elective	3
English literature course	3
Performing Arts elective	3
Humanities elective	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Liberal Arts: Journalism Option

Division of Humanities — Curriculum Code: 019J
Will Earn Upon Program Completion: Associate in Arts (A.A.) Degree

Why major in Journalism?

Whether you are interested in newspaper, magazine, book or electronic publishing, the field of journalism offers opportunities to discover more about the world and communicate your insights to others. At ECC, the program covers theory and practice of reporting, and writing news and features for print publications. Students are given the opportunity to do reporting on news, arts, entertainment, and sports. They can also publish their work in the *Essex County College Observer* as well as in other college publications.

If I major in Journalism, can I transfer to an upper-division college or university?

Most or all of the credits earned at ECC toward an A.A. degree in Journalism will transfer to a four-year college or university depending on ECC's particular transfer/articulation agreements with area institutions. While studying at ECC, we encourage you to familiarize yourself with the degree requirements of any baccalaureate program to which you wish to transfer upon graduation.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may need to take developmental courses in reading, English, and/or mathematics before taking the core curriculum courses for your major. Also, English 101 is a prerequisite for the journalism courses. However, students who have previous journalism experience may qualify for waiver of this requirement; writing samples must be submitted for approval.

How long will it take for me to complete this degree?

If you do not need developmental course work and you register for an average of 15 to 17 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the two summer sessions.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3319/3320.

Upon completion of this program, graduates will be able to:

- Communicate ideas verbally and in writing in a clear and effective manner, appropriate to college-level discourse;
- Demonstrate knowledge of the organization and content of a newspaper;
- Demonstrate competence in the basics of journalism — research, interviewing, revisions, editing, and proofreading;
- Develop leads, layouts, and design;
- Demonstrate knowledge of the printing process and photography;
- Demonstrate competence in key aspects of the news reporting process and prepare different types of news copy;
- Compose articles and headlines appropriate to style requirements for a variety of publications;
- Analyze newsmagazines, and television and radio productions; and
- Demonstrate proficiency in using the word processor, web browsers, and databases in the journalistic field.

Liberal Arts: Journalism Option — A.A. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(45-48 credits)

Communications (9 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3
ENG 105, 108, 109, 151, or 169			3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (10-12 credits)

Two Math courses (100 or higher) and a lab science course **or** one Math course (100 or higher) and a lab science sequence: MTH (100 level or higher)	3-8
BIO 101-102, 103-104, or 121-122; CHM 101-102 or 103-104; PHY 101-102, 103-104 ir 113-114	4-8

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (18 credits)

Any two 200-level English literature courses	6
Any History sequence	6
ART 100, 101, 102, or 200 **or** MUS 100, 108, 109, or 117	3
Any one of the following as Humanities elective: ART, CIN, DAN, DRA, ENG (Literature) MUS or PHI course; ENG 105, 108, 141, 142, 151, 169; ARB 101, 102; FRN 101, 102, 201, 202; ITL 101, 102, 201; SPN 100, 101, 102, 201, 202	3

MAJOR COURSE REQUIREMENTS:
(13 credits)

ENG	141	Introduction to Journalism	3
ENG	142	Journalism II	3
ENG	144	Journalism Workshop	1
ENG	151	Mass Communications	3
ENG	169	Creative Writing	3

Free electives	6
Total Credits Required for Degree	**64-67**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
Social Science requirement			3
Art/Music requirement			3
PHE	119	Concepts in Physical Education	2
ENG	151	Mass Communications	3
Additional course requirement			3

Second Semester

ENG	102	College Composition II	3
ENG	141	Introduction to Journalism	3
Social Science requirement			3
MTH	100	Introduction to College Math	4
HST	101	World Civilization I	3

Third Semester

ENG	105	Technical Writing	3
ENG	142	Journalism II	3
ENG	205	Western Literary Tradition	3
BIO	101	College Biology I	4
HST	102	World Civilization II	3

Fourth Semester

ENG	215	Modern Literary Masterpieces	3
ENG	144	Journalism Workshop	1
ENG	169	Creative Writing	3
BIO	102	College Biology II	4
Additional course requirement			3
Humanities elective			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Liberal Arts: Spanish Language Option

Department of Bilingual Studies — Curriculum Code: 019L
Will Earn Upon Program Completion: Associate in Arts (A.A.) Degree

Why major in Spanish?

Whether you are planning to pursue a career in business, social work, education, law enforcement, or the health professions, competency in Spanish will help distinguish you from the competition. In fact, as the number of Spanish speakers continues to grow in the tri-state area, Spanish language proficiency is fast becoming an essential part of many occupations. Moreover, the implementation of new world language requirements in New Jersey public schools has created a strong demand for teachers of Spanish throughout the state.

If I major in Spanish, can I transfer to an upper-division college or university?

Most or all of the credits earned at ECC toward an A.A. degree in Spanish will transfer to a four-year college or university depending on ECC's particular transfer/articulation agreements with area institutions. You may choose to apply the credits toward a B.A. in Spanish, Education, or some other major.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking the core curriculum courses in your major. However, you may enroll in Spanish courses, with departmental permission, while taking developmental courses.

How long will it take for me to complete this degree?

If you do not need developmental course work and you register for 15 credits each semester, you can complete the degree in two years.

Where should I direct specific questions about this program?

Contact the Department at (973) 877-3450.

Upon completion of this program, graduates will be able to:

- Speak and comprehend Spanish with proficiency;
- Read and write Spanish with proficiency;
- Demonstrate understanding of basic Spanish grammar;
- Demonstrate command of an expansive vocabulary in Spanish; and
- Demonstrate an understanding and appreciation of the literature and culture of Spanish-speaking peoples.

Liberal Arts: Spanish Language Option — A.A. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(39-42 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101 or SOC 101	3
Any ANT, POL, PSY or SOC course	3

Lab Science/Math (10-12 credits)

A Lab Science sequence and a Math course (100 or higher) **or** two Math courses (100 or higher) and a Lab Science course:

MTH (100 level or higher)	3-8
BIO 101-102, 103-104, or 121-122; CHM 101-102 or 103-104; PHY 101-102, 103-104, or PHY 113-114	4-8

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (15 credits)

Any 200-level English literature course	3
Any History sequence	6
ART 100, 101, 102, or 200 or MUS 100, 108, 109, or 117	3
Any one of the following as Humanities elective: ART, CIN, DAN, DRA, ENG (Literature) MUS or PHI course; ENG 105, 108, 141, 142, 151, 169; ARB 101, 102; FRN 101, 102, 201, 202; ITL 101, 102, 201; SPN 100, 101, 102, 201, 202	3

MAJOR COURSE REQUIREMENTS:
(12 credits)

Students can choose from the following:

SPN	101	Elementary Spanish I
SPN	102	Elementary Spanish II
SPN	201	Intermediate Spanish I
SPN	202	Intermediate Spanish II
SPN	222	Latin American Literature
SPN	225	Caribbean Literature
SPN	227	US Latino Literature

Note: Students with some proficiency in Spanish may place into advanced courses.

ADDITIONAL COURSE REQUIREMENTS:
(9 credits)

Free electives	9
Total Credits Required for Degree	**60-63**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

SPN	101	Elementary Spanish I	3
ENG	101	College Composition I	3
Math/Lab Science requirement			4
PHE 119 or HLT 101			2-3
Free elective			3

Second Semester

SPN	102	Elementary Spanish II	3
ENG	102	College Composition II	3
MTH	101	Statistics and Probability I	3
Lab Science (BIO 101 or BIO 102 recommended)			4
Free elective			3

Third Semester

SPN	201	Intermediate Spanish I	3
Social Science requirement			3
History requirement			3
200-level English Literature requirement (ENG 237, 238 or 242 recommended)			3
Free elective			3

Fourth Semester

SPN	202	Intermediate Spanish II	3
History requirement (must take sequence)			3
Social Science requirement			3
Art/Music requirement			3
Humanities elective (SPN 222, 225, or 227 **or** HST 131 recommended)			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

LPN Certificate Program

Department of Nursing — Curriculum Code: 3307
Will Earn Upon Program Completion: Certificate of Practical Nursing

Why should I choose Practical Nursing?

There is a growing demand for LPNs to provide care to individuals in a variety of health care settings. The LPN works in close collaboration with the RN and other members of the health care team. A state-of-the-art, well-equipped nursing simulation laboratory is available on campus to facilitate student learning. In addition, a multi-media computer laboratory is available for the student for entry-level positions in long term care facilities, assisted living sites, and hospitals. Upon completion of the program, the student receives a certificate and is eligible for the NCLEX-PN exam to qualify for LPN Licensure.

Is there educational mobility after completing the LPN program?

Essex County College Department of Nursing subscribes to the State Articulation model for education mobility of nurses. LPN students can enter the RN program upon meeting the admission requirements of the LPN Articulation Option.

Are there any requirements I must satisfy before I start taking courses in the LPN program?

Apply to the college as a pre-LPN student (curriculum code: 3303). The minimum standards for admission are:

- College level performance in English, reading and mathematics;
- High school diploma or GED;
- Completion of ENG 101, BIO 121, PSY 101, with a "C" or better. BIO 121 and BIO 122 must be completed within 5 years of admission.
- College GPA above 2.5;
- You must achieve a satisfactory score on the admission exam. All requirements must be completed by the end of the Summer I semester to be considered. Admission to the program is competitive. Qualified applicants are admitted on a space available basis.
- Admission to the nursing program is based on a statistically weighted system which considers your:
  Overall GPA;
  GPA in BIO 121, ENG 101, PSY 101;
  NET Composite percentage;
  NET Reading percentage;
  NET Math percentage;

How long will it take me to complete this degree?

The LPN program is offered over 18 months part-time, in the evenings and on weekends.

Where should I direct specific questions about this program?

Call the Department at (973) 877-1868.

Upon completion of this program, graduates will be able to:

- Assess clients utilizing Maslow's Hierarchy of Needs and Erikson's developmental theory as a framework to contribute to the data base;
- Use critical thinking skills to contribute to the plan of care and enhance client's health;
- Practice in collaboration with other members of the health care team using the nursing process and clinical decision making skills;
- Implement caring interventions in a safe and competent manner to assist clients to achieve short and long-term health-related goals; and necessary, to achieve a peaceful death taking into account cultural diversity and advocacy needs;
- Collect and communicate data to evaluate the effectiveness of nursing care based upon established outcome criteria;
- Employ appropriate communication skills with clients, peers, and members of the health care team in the health care setting;
- Implement teaching plans to promote health in clients and their families;
- Practice nursing within an ethical framework and the legal scope of practice of the practical nurse; and
- Demonstrate a commitment to one's own professional and personal growth.

LPN Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(14 Credits)

Communications (3 credits)

ENG	101	College Composition I	3

Social Science (3 credits)

PSY	101	General Psychology I	3

Lab Science/Math (8 credits)

BIO	121	Anatomy & Physiology I	4
BIO	122	Anatomy & Physiology II	4

MAJOR COURSE REQUIREMENTS:
(46 credits)

PNR	101	Nursing Role & Concept	4
PNR	102	Nursing Fundamentals	6
PNR	103	Adult Health I	7
PNR	104	Mental Health	3
PNR	105	Adult Health II	6
PNR	106	Maternal-Child Health	4
PNR	107	Pediatric Health I	4
PNR	108	Role Transition/Review	2

Total Credits Required for Degree: 50

The minimum passing grade for all courses designated BIO, CHM, MTH or NRS is "C."

Note: Consult the program handbook for specific information on licensure requirements.

Note: Students enrolled in the Nursing Program will be required to submit to criminal background checks, health clearance, and CPR certification in connection with their clinical placement at certain health care organizations. All expenses for health clearance, criminal background checks, and CPR certification are the responsibility of the student.

RECOMMENDED SEQUENCE OF COURSES*

Prerequisite Courses

BIO	121	Anatomy and Physiology I	4
ENG	101	College Composition I	3
PSY	101	General Psychology I	3

First Semester

PNR	101	Nursing Role & Concept	4
BIO	122	Anatomy and Physiology II	4

Second Semester

PNR	102	Nursing Fundamentals	6

Third Semester

PNR	103	Adult Health I (1/2 semester)	7
PNR	104	Mental Health (1/2 semester)	3

Fourth Semester

PNR	105	Adult Health II (1/2 semester)	6
PNR	106	Maternal-Child Health (1/2 semester)	4

Fifth Semester

PNR	107	Pediatric Health I	4

Sixth Semester

PNR	108	Role Transition/Review	2

Note: This LPN Program is approved by the New Jersey Board of Nursing. 124 Halsey Street, 6th Floor, Newark, New Jersey 07102 (Web address: www.njconsumeraffairs.gov/medical/nursing.htm Tel: (973) 504-6430).

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Manufacturing Engineering Technology Program

A Dual Admissions Program with NJIT

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 5301

Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Manufacturing Engineering Technology?

This program is designed to prepare students for employment in the computer-operated manufacturing facilities of existing and emerging industries. It enables students to develop a broad background that can be applied to such areas as mechanical design, quality control, materials testing, facilities design, automation, stress analysis, and sales. Courses emphasize the application of current knowledge and practices to the solution of specific problems. The program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET), III Market Place, Suite 1050, Baltimore, MD 21202, Telephone: (410) 347-7700.

If I major in Manufacturing Engineering Technology, can I transfer to an upper-division college or university?

Yes. You may choose to participate in the Dual Admissions program with the New Jersey Institute of Technology and have all your credits applied to the first two years of NJIT's bachelor's degree program. Or you may choose to transfer to one of many other colleges that offer a baccalaureate in manufacturing engineering technology.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental course work and you attend full time, you can complete the degree in two years. Part-time students can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Select and specify materials for manufacturing applications based on principles of engineering mechanics, strength of materials, weight, corrosion, finish, and cost;
- Demonstrate understanding of the principles and elements of automated controls, and the ability to select appropriate devices for manufacturing and various control processes;
- Apply basic principles of blueprint reading to prepare detailed working drawings using computer aided design (CAD) skills;
- Use American National Standards Institute (ANSI) protocol for sizing and tolerancing of mating parts, and apply geometric dimension and tolerancing (GD&T) techniques to engineering design;
- Utilize 3D solid modeling CAD systems to create mechanical components and generate assembly designs;
- Utilize CAD and computer aided manufacturing (CAM) software and hardware to integrate design, manufacturing, and production processes;
- Apply standard testing techniques approved by ANSI, and perform quality control and inspection of products; and
- Use computer numeric control (CNC), CAM, and coordinate measuring machines (CMM) in automated manufacturing and product inspection processes.

Note: To prepare for the manufacturing field, two distinct programs are available: Manufacturing Engineering Technology (Curr. Code 5301) and Engineering (Curr. Code 0399). Consult the program coordinator for a complete explanation.

Manufacturing Engineering Technology — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(21-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Math (4 credits)

MTH	113	College Algebra with Trigonometry	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(25 credits)

ENR	103	Engineering Graphics	2
ENR	105	Applied Computer Aided Design	2
ENR	110	Mechanics	3
MET	201	Manufacturing Proc. and Materials	3
MET	202	Modern Manuf. Sys. and Robotics	4
MET	211	Machines and Controls	3
MET	215	Fluid Mechanics	3
MET	225	Computer Numerical Control	4
MET	250	Manufacturing Engr. Tech. Project	1

ADDITIONAL COURSE REQUIREMENTS:
(21 credits)

CSC	112	Computer Prog. for Engr. & Tech.	3
ELC	115	Electric Circuits: DC and AC	4
ELC	218	Pulse & Digital Circuits	3
MTH	114	Unified Calculus I	3
PHY	101	College Physics I	4
PHY	102	College Physics II	4

Total Credits Required for Degree **67-68**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
ELC	115	Electric Circuits: DC and AC	4
ENR	103	Engineering Graphics	2
MTH	113	College Algebra with Trigonometry	4
PHY	101	College Physics I	4

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
ENR	105	Applied Computer Aided Design	2
CSC	112	Computer Prog. for Engr. & Tech.	3
MTH	114	Unified Calculus I	3
PHY	102	College Physics II	4

Summer

Social Science requirement	3
Humanities requirement	3

Third Semester

ENR	110	Mechanics	3
MET	201	Manufacturing Proc. and Materials	3
MET	215	Fluid Mechanics	3
MET	225	Computer Numerical Control	4
Physical Education/Health requirement			2-3

Fourth Semester

ELC	218	Pulse & Digital Circuits	3
MET	202	Modern Manuf. Sys. and Robotics	4
MET	211	Machines and Controls	3
MET	250	Manufacturing Engr. Tech. Project	1
Social Science requirement			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Manufacturing Engineering Technology: Mechanical Engineering Technology Option

A Dual Admissions Program with NJIT

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 530E

Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Mechanical Engineering Technology?

This program is designed to provide a combination of theory and hands-on training in mechanical engineering fields. It enables students to develop a broad background which can be applied to such areas as mechanical design, quality control, material testing, facilities design, automation, stress analysis, and sales. Courses emphasize the application of current knowledge and practices to the solution of specific problems. The program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET), III Market Place, Suite 1050, Baltimore, MD 21202, Telephone: (410) 347-7700.

If I major in Mechanical Engineering Technology, can I transfer to an upper-division college or university?

Yes. You may choose to participate in the Dual Admissions program with the New Jersey Institute of Technology and have all your credits applied to the first two years of NJIT's bachelor's degree program. Or you may choose to transfer to one of many other colleges which offer a baccalaureate in mechanical engineering technology.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this degree?

If you do not need developmental course work and you attend full time, you can complete the degree in two years. Part-time students can complete the program in three or four years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of the fundamental principles of engineering mechanics and strength of materials;
- Select and specify materials for manufacturing applications based on principles of engineering mechanics, strength of materials, weight, corrosion, finish, and cost;
- Apply basic principles of blueprint reading to prepare detailed working drawings using computer aided design (CAD) skills;
- Use American National Standards Institute (ANSI) protocol for sizing and tolerancing of mating parts, and apply geometric dimension and tolerancing (GD&T) techniques to engineering design;
- Utilize 3D solid modeling CAD systems to create mechanical components and generate assembly designs;
- Apply standard testing techniques approved by ANSI, and perform quality control and inspection of products; and
- Utilize computer software applications used in engineering such as CAD, spreadsheets, word processing, and basic programming.

Note: To prepare for the mechanical engineering field, two distinct programs are available: Mechanical Engineering Technology (Curr. Code 530E) and Engineering (Curr. Code 0399). Consult the program coordinator for a complete explanation.

Manufacturing Engineering Technology: Mechanical Engineering Technology Option — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS: (21-22 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Math (4 credits)

MTH	113	College Algebra with Trigonometry	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS: (27 credits)

ENR	103	Engineering Graphics	2
ENR	105	Applied Computer Aided Design	2
ENR	110	Mechanics	3
ENR	220	Mechanics of Materials	4
MEC	210	Kinematics	3
MET	201	Manufacturing Proc. and Materials	3
MET	202	Modern Manuf. Sys. and Robotics	4
MET	211	Machines and Controls	3
MET	215	Fluid Mechanics	3

ADDITIONAL COURSE REQUIREMENTS: (18 credits)

CSC	112	Computer Prog. for Engr. & Tech.	3
ELC	115	Electric Circuits: DC and AC	4
MTH	114	Unified Calculus I	3
PHY	101	College Physics I	4
PHY	102	College Physics II	4

Total Credits Required for Degree **66-67**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
ELC	115	Electric Circuits: DC and AC	4
ENR	103	Engineering Graphics	2
MTH	113	College Algebra with Trigonometry	4
PHY	101	College Physics I	4

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
ENR	105	Applied Computer Aided Design	2
ENR	110	Mechanics	3
MTH	114	Unified Calculus I	3
PHY	102	College Physics II	4

Summer

Social Science requirement	3
Humanities requirement	3

Third Semester

ENR	220	Mechanics of Materials	4
CSC	112	Computer Prog. for Engr. & Tech.	3
MET	215	Fluid Mechanics	3
MET	201	Manufacturing Proc. and Materials	3
Physical Education/Health requirement			2-3

Fourth Semester

MET	202	Modern Manuf. Sys. and Robotics	4
MET	211	Machines and Controls	3
MEC	210	Kinematics	3
Social Science requirement			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Massage Therapy Program

Division of Social Sciences — Curriculum Code: 6013
Will Earn Upon Program Completion: Certificate in Massage Therapy

Why major in Massage Therapy?

Massage therapists find their work of helping others personally satisfying and professionally rewarding. Massage involves using manual techniques and adjunctive therapies to relieve the effects of stress, ease tension, and promote health and well-being. Employment is available in a variety of settings including massage offices, medical offices, health clubs, and spas. The field is rapidly growing and many massage therapists choose to specialize in particular areas such as sports massage, Shiatsu, pregnancy massage, relaxation therapy, or onsite massage. Professional growth occurs continuously through the broadening and deepening of manual skills. A growing body of research on massage verifies its benefits. Massage therapists work in conjunction with health care professionals, making referrals as appropriate in response to clients' needs.

If I major in Massage Therapy, can I transfer to an upper-division college or university?

The major is career oriented and not designed for transfer to a baccalaureate program. Credits earned in this program can be applied to the Associate of Science degree in the Health Sciences at ECC. Other colleges and universities will apply most or all of the courses you have taken toward a baccalaureate program, depending upon their program requirements.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics. A massage session with a professional massage therapist is strongly recommended prior to taking major courses.

How long will it take for me to complete this certificate?

This is a one-year program starting in the spring semester, with classes in the summer and finishing at the end of the fall term.

Where should I direct specific questions about this program?

Call the Division at (973) 877-3354/3496.

Upon completion of this program, graduates will be able to:

- Take the National Certification Examination to become certified as a professional massage therapist;
- Apply massage skills in massage therapy practice;
- Demonstrate Shiatsu and Swedish massage techniques;
- Address client needs by easing tensions in specific muscle groups;
- Work with the general population as well as special populations such as athletes, pregnant clients, and geriatrics for building and maintaining health;
- Demonstrate massage techniques used in medical settings to assist other care professionals in the healing process;
- Develop a vision of the ideal business plan and identify steps to achieve it;
- Prepare client records as well as financial records for success in business practice; and
- Apply holistic philosophy of massage therapy to complement medical practices.

Massage Therapy — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(11 Credits)

Communications (3 credits)

ENG	101	College Composition I	3

Lab Science (8 credits)

BIO	117	Fundamentals of Anat. and Phys. I	4
BIO	118	Fundamentals of Anat. and Phys. II	4

(BIO 121/122 can be substituted for BIO 117/118)

MAJOR COURSE REQUIREMENTS:
(24 credits)

HSC	109	Medical Terminology	3
HSC	151	Massage Theory and Practice I	4
HSC	152	Massage Theory and Practice II	2
HSC	153	Massage Theory and Practice III	4
HSC	155	Profess. Devel. in Massage Ther. I	2
HSC	156	Profess. Devel. in Massage Ther. II	3
HSC	160	Massage Therapist Practicum I	2
HSC	161	Massage Therapist Practicum II	3
HSC	165	Self-Care for the Massage Therapist	1

Total Credits Required for Certificate **35**

The minimum passing grade for all courses designated BIO or HSC is "C". A grade below "C" requires that the course be repeated.

RECOMMENDED SEQUENCE OF COURSES:*

First Semester - Spring

HSC	151	Massage Theory and Practice I	4
BIO	117	Fundamentals of Anat. and Phys. I	4
HSC	155	Profess. Devel. in Massage Ther. I	2
HSC	165	Self-Care for the Massage Therapist	1
HSC	109	Medical Terminology	3

Second Semester - Summer I

HSC	152	Massage Theory and Practice II	2
HSC	156	Profess. Devel. in Massage Ther. II	3
HSC	160	Massage Therapist Practicum I	2
ENG	101	College Composition I	3
BIO	118	Fundamentals of Anat. and Phys. II	4

Third Semester - Fall

HSC	153	Massage Theory and Practice III	4
HSC	161	Massage Therapist Practicum II	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Mathematics Program

A Dual Admissions Program with Rutgers-Newark, Kean University and New Jersey City University

Division of Mathematics and Physics — Curriculum Code: 0604

Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Mathematics?

Mathematics encompasses logic and methodology of reasoning, and provides the tools for critical thinking and decision making. The program is designed for students who intend to pursue a baccalaureate degree in mathematics, mathematics education or a related field and emphasizes methodical problem-solving techniques. The program develops fundamental knowledge in proof and theory, applications, and algorithms. Developing an appreciation for and proficiency in using graphing utilities and other technological devices prepares you for success in mathematically rich courses.

If I major in Mathematics, can I transfer to an upper-division college or university?

You may choose to participate in the Dual Admissions program with Rutgers University-Newark, Kean University, or New Jersey City University. Essex County College's transfer/articulation agreements with other area four-year colleges provide smooth transfer for A.S. graduates.

Are there any requirements I must satisfy before I start taking courses in my major?

A solid foundation in all aspects of precalculus mathematics is essential for success in advanced mathematics courses. A knowledge of college algebra, trigonometry, and geometry is necessary.

How long will it take for me to complete this degree?

If you do not need developmental course work and you register for an average of 15-16 credits per semester, you can complete the degree in two years. You may shorten the time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Call the Division at (973) 877-3302/3303.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of the fundamental concepts of single variable and multivariable calculus. A student will be able to find limits and derivatives, determine continuity, find integrals, use derivatives to curve sketch, and do applications from diverse fields;
- Utilize various problem-solving and critical-thinking approaches to set up and solve problems as diverse as related rates, areas between curves, volume of solids, and related problems involving integration;
- Demonstrate an ability to determine whether an infinite series converges or diverges, express a function as a Taylor or MacLaurin series, and evaluate first order and second order partial differential equations;
- Set up and solve a variety of problems involving ordinary differential equations with physical and geometrical applications; and
- Recognize and solve general problems using differential equations through various methods including undetermined coefficients, variations of parameters, power series, and Laplace transforms.

Mathematics — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(35-36 Credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (12 credits)

MTH	121	Calculus with Analytical Geometry I	4
PHY	103	General Physics I	4
PHY	104	General Physics II	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

Any 200-level English literature course	3
Any History course	3
ART 100, 101, 102 or 200 **or** MUS 100, 108, 109 or 117	3

MAJOR COURSE REQUIREMENTS:
(22 credits)

MTH	122	Calculus with Analy. Geometry II	4
MTH	221	Calculus with Analy. Geometry III	4
MTH	222	Differential Equations	4
MTH	136	Discrete Mathematics	3
MTH	239	Introduction to Linear Algebra	3
CSC	121	Computer Science I	4

ADDITIONAL COURSE REQUIREMENTS:
(7 credits)

CSC	122	Computer Science II	4
Free Elective			3

Total Credits Required for Degree **64-65**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

MTH	121	Calculus with Analytical Geometry I	4
PHY	103	General Physics I	4
CSC	121	Computer Science I	4
ENG	101	College Composition I	3

Second Semester

MTH	122	Calculus with Analy. Geometry II	4
PHY	104	General Physics II	4
CSC	122	Computer Science II	4
ENG	102	College Composition II	3

Summer

History requirement	3

Third Semester

MTH	221	Calculus with Analy. Geometry III	4
MTH	136	Discrete Mathematics	3
200-level English literature requirement			3
ART/MUS requirement			3
Social Science requirement			3

Fourth Semester

MTH	222	Differential Equations	4
MTH	239	Introduction to Linear Algebra	3
PHE 119 or HLT 101			2-3
Social Science requirement			3
Free elective			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Microcomputer Systems Applications Program

Division of Business — Curriculum Code: 2007
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Microcomputer Systems Applications?

This program prepares students for job opportunities that involve computer word processing, use of spreadsheets and databases for business solutions, desktop publishing, and other applications. The program also introduces students to Internet Web page design. The major is designed for students who are seeking to gain entry into the labor market and also for those who wish to upgrade their professional knowledge for career advancement in the area of microcomputer applications.

If I major in Microcomputer Systems Applications, can I transfer to an upper-division college or university?

While this program is not designed for transfer purposes, New Jersey Institute of Technology will apply most of the courses you take in this program toward a B.S. in Engineering Technology. For specific guidelines regarding course sequence and requirements for transferability, consult you faculty advisor.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this degree?

If you do not need developmental course work and you register for an average of 17 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Use the computer to carry out a variety of business tasks including mail merges, creating templates, and e-mailing;
- Create professional looking business documents including announcements, letters, indexes, tables of contents, online forms, newsletters, research papers, and reports;
- Select and apply software tools for business solutions;
- Customize major software packages commonly used in business;
- Plan, create, and manipulate databases for typical business needs using Microsoft Access;
- Use spreadsheet analysis packages such as Microsoft Excel;
- Use PowerPoint to create presentations, present slide shows, create a self-running show using animation effects, and distribute presentations to remote audiences;
- Use desktop publishing software to create effective marketing materials;
- Plan, create, and maintain static and dynamic Web pages;
- Perform simple hardware tasks;
- Provide support and training to other computer users; and
- Take the MOUS tests to be certified as a Microsoft Office User Specialist.

Microcomputer Systems Applications — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(24-25 Credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Math (7 credits)

MTH	100	Introductory College Math	4
MTH	127	Basic Calculus	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(30-32 credits)

OST	105	Microcomputer Keyboarding and Document Processing	3
CIS	135	Microcomputer Spreadsheets	3
CIS	136	Desktop Publishing	3
CIS	137	Microcomputer Databases	3
CIS	139	Introduction to Multimedia	3
CIS	212	Systems Analysis and Design	3
CIS	235	Adv. Microcomputer Spreadsheets	3
CIS	237	Adv. Microcomputer Databases	3

Select 2 courses from the following: 6-8

CIS	105	Programming Concepts **or**
CSC	100	Fund. of Computer Science
CIS	111	Information Processing I
CIS	114	Introduction to Visual Basic
CIS	152	Internet Concepts
CIS	153	Adv. Internet Concepts & Applications
CEE	298 or 299	Cooperative Education I and II

ADDITIONAL COURSE REQUIREMENTS:
(7 credits)

BUS	101	Business Organization & Mgt.	3
ACC	101	Principles of Accounting I	4

Total Credits Required for Degree **61-65**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

OST	105	Microcomputer Keyboarding and Document Processing	3
CIS	135	Microcomputer Spreadsheets	3
CIS	139	Introduction to Multimedia	3
MTH	100	Introductory College Math	4
ENG	101	College Composition I	3

Second Semester

CIS	136	Desktop Publish. for IBM Compatibles	3
CIS	137	Microcomputer Databases	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
MTH	127	Basic Calculus	4
Social Science requirement			3

Third Semester

CIS	235	Adv. Microcomputer Spreadsheets	3
CIS	237	Adv. Microcomputer Databases	3
BUS	101	Business Organization & Mgt.	3
ACC	101	Principles of Accounting I	4
Physical Education/Health requirement			2-3

Fourth Semester

CIS	212	Systems Analysis and Design	3
CIS or CEE electives			6-8
Social Science requirement			3
Humanities requirement			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Music Program

Division of Humanities — Curriculum Code: 0409
Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Music?

This program allows students to secure the first two years of a four-year program in music. Completion of this program is the first step toward gaining a position such as teacher, supervisor, or director of choral, instrumental, and/or theater production programs within middle schools, junior high and senior high schools, as well as in choral and instrumental organizations. Numerous full-time teaching positions exist in public and private schools for music education majors.

If I major in Music, can I transfer to an upper-division college or university?

The Associate in Science degree in Music prepares you to transfer to upper-division colleges and universities to pursue a bachelor's degree. Transfer students are generally required to take a music theory, keyboard skills, and pitch discrimination placement test at the four-year institutions to which they transfer.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on the results of your placement test, you may be required to take developmental courses in reading, English, and/or mathematics before taking courses in your major. It is not required but prior ability to read music and some performance skills on one instrument or voice is recommended. Some keyboard skills are also suggested.

How long will it take for me to complete this degree?

If you do not need developmental course work, and you register for an average of 17 credits each semester, you can complete the degree in two years. You can shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3319/3320.

Upon completion of this program, graduates will be able to:

- Demonstrate ability to read music, transpose music, write harmonic patterns, provide simple melodic accompaniments, and compose music;
- Identify intervals, meters, rhythms, scales, and chords, and also sight read melodies and various rhythms;
- Apply all knowledge of music theory to the keyboard and have sufficient piano technique and facility;
- Recognize all the major styles and periods, major figures, and necessary terms in listening and written forms of classical music or jazz;
- Listen to recorded materials and intelligently discuss what is heard;
- Verbalize and write about the music heard using a newly acquired set of descriptive musical terms;
- Describe the rich cultural heritage of jazz which embraces African, European, and American values;
- Apply basic principles of breathing, tone production, diction, and interpretation to singing;
- Demonstrate the acquired skills used in ensemble playing;
- Compare musical literature and its relationship to other arts; and
- Apply the techniques involved in musical arrangements for any size performance group.

Music — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(35-36 Credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101 or SOC 101	3
Any ANT, POL, PSY or SOC course (PSY 102 and SOC 108 recommended)	3

Lab Science/Math (10-12 credits)

A Lab Science sequence and a Math course (100 or higher) or two Math courses (100 or higher) and a Lab Science course.

MTH (100 level or higher)	3-8
BIO 101-102, 103-104, or 121-122; CHM 101-102 or 103-104; PHY 101-102, 103-104, or 113-114	4-8

Physical Education (2-3 Credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

Any History course	3
Any 200-level English literature course	3
MUS 100, 108, 109, or 117	3

MAJOR COURSE REQUIREMENTS:
(26 credits)

MUS	105	Musicianship I	2
MUS	106	Musicianship II	2
MUS	115	Ear Training & Sight Singing I	3
MUS	116	Ear Training & Sight Singing II	3
MUS	121	Voice Class I **or**	
MUS	131	Keyboard Class I	2
MUS	122	Voice Class II **or**	
MUS	132	Keyboard Class II	2
MUS	141	College Choir I **or**	
MUS	153	Instrumental Workshop I	1
MUS	142	College Choir II **or**	
MUS	154	Instrumental Workshop II	1
MUS	205	Musicianship III	2
MUS	206	Musicianship IV **or**	3
MUS	111	MIDI Music Composition I **or**	3
MUS	118	Sound Design I	3
MUS	221 or MUS 231		2
MUS	222 or MUS 232		2
MUS	241 or MUS 253		1
MUS	242 or MUS 254		1

ADDITIONAL COURSE REQUIREMENTS:
(4 credits)

Music elective (Highly recommended: Applied Performance)	4
Total Credits Required for Degree	**63-66**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

MUS	105	Musicianship I	2
MUS	131	Keyboard Class I **or**	2
MUS	121	Voice Class I	
MUS	141	College Choir I **or**	
MUS	153	Instrumental Workshop I	1
ENG	101	College Composition I	3
MTH	100	Introductory College Math	4
Applied Performance			1

Second Semester

MUS	106	Musicianship II	2
MUS	115	Ear Training & Sight Singing I	3
MUS	122	Voice Class II **or**	
MUS	132	Keyboard Class II	2
MUS	142	College Choir II **or**	
MUS	154	Instrumental Workshop II	1
ENG	102	College Composition II	3
Math requirement			3-4
Social Science requirement			3
Applied Performance			1

Third Semester

MUS	116	Ear Training & Sight Singing II	3
MUS	205	Musicianship III	2
MUS	221	Voice Class III **or**	2
MUS	231	Keyboard Class III	
MUS	241	College Choir III **or**	
MUS	253	Instrumental Workshop III	1
Physical Education/Health requirement			2-3
Lab Science requirement			4
Applied Performance			1

Fourth Semester

MUS	100	Music Appreciation	3
MUS	206	Musicianship IV	2
MUS	222	Voice Class IV **or**	2
MUS	232	Keyboard Class IV	
MUS	242	College Choir IV **or**	
MUS	254	Instrumental Workshop IV	1
English literature requirement			3
History requirement			3
Social Science requirement			3
Applied Performance			1

Note: The coordinator may permit a student to substitute an applied performance course for a major course.

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Network Technology Program

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 3203
Will Earn Upon Program Completion: Certificate in Network Technology

Why major in Network Technology?

The Network Technology Program, housed at the Center for Technology, is designed to prepare students for careers in computer network administration. It is specifically appropriate for people who have basic knowledge of computer hardware and software but would like to augment their knowledge of network administration. The courses in the Network Technology program help in preparing for the Microsoft professional certification examinations.

If I major in Network Technology, can I transfer to an upper-division college or university?

The Network Technology program is designed as a career-oriented program. Some of the courses completed as part of this certificate program can be applied toward associate degrees at ECC. Most or all credits earned in certificate programs that are applied to associate degree programs transfer to four-year institutions. See a divisional advisor for more information.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this certificate?

If you do not need developmental course work and you attend full time, you can complete the certificate in two semesters. Part-time students can complete the program in two years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Provide technical support for local area network operations;
- Manage security levels for a local area network and administer access rights to users;
- Implement network management strategies for an enterprise network;
- Monitor memory usage and optimize performance through the use of utilities;
- Construct and administer trust relationships in multiple domain networks;
- Install and configure client operating systems on network workstations;
- Administer client workstation access rights; and
- Manage overall system performance for all client workstations within a local area network.

Network Technology — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(7 Credits)

Communications (3 credits)

ENG	101	College Composition I	3

Math (4 credits)

MTH	100	Introductory College Math	4

MAJOR COURSE REQUIREMENTS:
(16 credits)

CSC	105	Network Administration	4
CSC	108	Client Operating Systems	4
CSC	121	Computer Science I	4
CSC	210	Advanced Network Administration	4

Total Credits Required for Certificate **23**

RECOMMENDED SEQUENCE OF COURSES:*

First Semester

ENG	101	College Composition I	3
CSC	105	Network Administration	4
MTH	100	Introductory College Math	4

Second Semester

CSC	108	Client Operating Systems	4
CSC	121	Computer Science I	4
CSC	210	Advanced Network Administration	4

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

New Media Technology Program

Division of Humanities— Curriculum Code: 2071
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in New Media Technology?

New Media Technology is a career-oriented, associate degree program fusing instruction in the new media, i.e. interactive artistic design of interfaces, DVD and CD creation including audio and video editing, animation for the web and handheld devices, as well as basic game design. Multimedia artists and animators are playing an increasingly important role in education and corporate training, in government agencies, web design firms, the motion picture industry as well as in radio and television. The diversity of employment in opportunities in multimedia is amazing; it is perhaps one of the fastest paced industries in the U.S. in the 21st century and beyond.

If I major in New Media Technology, can I transfer to an upper-division college or university?

This major is job-oriented and not designed for transfer to a baccalaureate program. However, colleges and universities including Thomas Edison State College, will apply most or all the courses you have taken toward a bachelor's degree.

Are there any requirements I must satisfy before I start taking courses in my major?

New students are required to take the basic skills competency test. Based on the results of the test. you may be required to take developmental courses in reading, English, and/or mathematics.

How long will it take for me to complete this certificate?

If you do not need developmental course work and you register for an average of 17 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the summer.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3319.

Upon completion of this program, graduates will be able to:

- Demonstrate an in-depth understanding of the fundamental principles of design as applied to multimedia projects;
- Demonstrate knowledge of the theories, practices, and principles of video and audio presentations;
- Use diverse software programs in combination with advanced hardware to produce multimedia projects;
- Develop interpersonal communication skills and demonstrate them in the creation of DVDs, CDs, and websites, and accompanying storyboards;
- Create original animations to be used on websites, as television introductions or in games;
- Demonstrate the ability to create an original computer game; and
- Work as a team and also independently.

New Media Technology — A.A.S. Degree Program - 2071

GENERAL EDUCATION REQUIREMENTS:
(20-22 Credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II* or	
ENG	105	Technical Writing	3

*recommended for this major

Social Science (6 credits)

ANT 101, POL 104, PSY 101 or SOC 101	3
Any ANT, POL, PSY or SOC course	

Lab Science/Math (3-4 credits)

MTH 100 or higher or a Lab Science course	3-4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(23 credits)

ART	167	Intro to Computer Art	3
ART	169	Advanced Computer Graphics	3
ART	171	Cyberspace Graphics & Beginning Animation	3
NMT	101	Interactive Multimedia Design	4
NMT	201	Flash & Actionscripting	4
NMT	202	Game Design and Applications or ART 170 Basic Web Design	3
CMS	121	Fundamentals of Filmmaking	3

ADDITIONAL COURSE REQUIREMENTS:
(21 credits)

ART	140	Intro to Photography	3
ART	107	Drawing I	3
ENG	141	Intro. to Journalism or ENG 169 Creative Writing or CMS 113 Writing for Film and Television*	3
CMS	110	Fundamentals of Television Production	3
ART	103	Fundamentals of Art I	3
ART	205	Two Dimensional Design	3
Cooperative Education Requirement			3

Total Credits Required for Degree: 64-66

*Recommended for this degree program

RECOMMENDED SEQUENCE OF COURSES*

First Semester

ENG	101	College Composition I	3
PSY	101	General Psychology I	3
MTH	100	Introductory College Math	4
ART	167	Intro. to Computer Art	3
ART	107	Drawing I	3

Second Semester

Any ANT, POL, PSY or SOC course			3
ENG	102	College Composition II	3
ART	171	Cyberspace Graphics & Beginning Animation	3
HLT	101	Healthful Living	3
*NMT	101	Interactive Multimedia Design	4

Third Semester — Fall

ART	169	Advanced Computer Graphics	3
CMS	113	Writing for Film and Television	3
NMT	201	Flash & Actionscripting	4
ART	140	Intro. to Photography	3
ART	103	Fundamentals of Art I	3

Fourth Semester — Spring

CMS	121	Fundamentals of Filmmaking	3
CMS	110	Fundamentals of Television Production	3
NMT	202	Game Design and Applications	3
ART	205	Two Dimensional Design	3
Cooperative Education Requirement			3
HST	101	World Civilization I	3

Nursing Program

Department of Nursing — Curriculum Code: 2104
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree
(Also see General Science A.S. Degree Program)

Why major in Nursing?

There is a growing demand for nurses nationwide. Nursing is a service-oriented profession that involves caring for and working with people. A state-of-the-art, well-equipped nursing simulation laboratory is available on campus to facilitate student learning. In addition, a multimedia computer laboratory is available for student use. The nursing program prepares the student for entry-level positions in hospitals and other health care facilities. Upon completion of the program, the student is eligible for the NCLEX-RN exam in order to qualify for licensure.

If I major in Nursing, can I transfer to an upper-division college or university?

Many colleges have "upper-division" nursing programs that allow associate degree graduates to earn a Bachelor of Science in Nursing (B.S.N.). Articulation agreements exist with New York University, New Jersey City University, St. Peter's College, Felician College, Kean University, Rutgers University, William Paterson University, and Seton Hall University.

Are there any requirements I must satisfy before I start taking courses in my major?

Apply to the college as a General Science (0603 code) student with a major in nursing. The minimum standards for admission are:

- College-level performance in English, reading and mathematics;
- High school diploma or GED;
- Completion of CHM 101 (or CHM 103), BIO 121, and ENG 101 with a "C" or better. BIO 121 must be completed within five years of admission. You can repeat a science course one time only;
- College GPA above 2.5.

All pre-requisite courses must be competed by December 31 for Fall admission and Summer I for Spring admission in order to test for the nursing admission exam. Admission to the program is competitive. Qualified applicants are admitted on a "space available" basis. Admission to the nursing program is based on a statistically weighted system which considers your:

- Overall GPA;
- GPA in BIO 121, CHM 101, ENG 101;
- NET Composite percentage;
- NET Reading percentage;
- NET Math percentage.

***Note:** In addition to the nursing program requirements, transfer students must be enrolled at Essex County College and have completed a minimum of six credits in or be eligible for admission to the nursing program.

How long will it take for me to complete this degree?

The Nursing program is a full-time, day program that runs over a two-year period.

Where should I direct specific questions about this program?

Contact the Department at (973) 877-1868.

Upon completion of this program, graduates will be able to:

- Assess clients utilizing Maslow's Hierarchy of Needs and Erikson's developmental theory as a framework to contribute to the data base;
- Use critical thinking when applying the nursing process;
- Formulate nursing diagnoses when potential and/or actual unmet needs cause health alterations;
- Develop a plan of care for clients in collaboration with other members of the health care team which incorporates clinical decision making, short and long term client-centered goals, and appropriate nursing interventions that are based on scientific rationale;
- Implement caring interventions, complex nursing skills, and current technology in a safe and competent manner;
- Evaluate the effectiveness of nursing care based upon established outcome criteria and revise care plan as needed;
- Implement nursing care responsive to the clients' cultural diversity and advocacy needs;
- Employ appropriate communication skills with clients, peers, and members of the health care team in the health care setting;
- Implement teaching plans to promote health in clients and their families;
- Practice nursing within the legal and ethical framework of the nursing profession;
- Demonstrate a commitment to one's own professional and personal growth; and
- Manage nursing care for groups of clients within the scope of ADN nursing practice.

Nursing — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(20 Credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

SOC	101	Introduction to Sociology	3
PSY	101	General Psychology I	3

Lab Science/Math (5 credits)

MTH	116	Medical Mathematics	1
BIO	121	Anatomy & Physiology I	4

Humanities (3 credits)

Any History course			3

MAJOR COURSE REQUIREMENTS:
(46 credits)

BIO	122	Anatomy and Physiology II	4
CHM	101	College Chemistry I **or**	
CHM	103	General Chemistry I	4
BIO	211	Microbiology	4
NRS	107	Nursing I	6
NRS	108	Nursing II	8
NRS	233	Nursing III	9
NRS	234	Nursing IV	9
NRS	235	Nursing V (Nursing Seminar)	2

Total Credits Required for Degree: 66

The minimum passing grade for all courses designated BIO, CHM, MTH or NRS is "C."

Note: Consult the program handbook for specific information on licensure requirements.

Note: Students enrolled in the Nursing Program will be required to submit to criminal background checks and health clearance and CPR certification in connection with their clinical placement at certain health care organizations. All expenses for health clearance, criminal background checks, and CPR certification are the responsibility of the student.

Note: Students who have SAT scores of 500 verbal and 500 Math or better within the last five years will be eligible for direct admission into the Nursing Program. Students should contact the Chairperson of the Nursing Department for more information.

Note: Students may choose either the day or evening program, but cannot switch.

RECOMMENDED SEQUENCE OF COURSES*

Prerequisite Courses

BIO	121	Anatomy and Physiology I	4
CHM	101	College Chemistry I **or**	
CHM	103	General Chemistry I	4
ENG	101	College Composition I	3

First Semester

BIO	122	Anatomy and Physiology II	4
NRS	107	Nursing I	6
MTH	116	Medical Mathematics	1
ENG	102	College Composition II	3

Second Semester

NRS	108	Nursing II	8
SOC	101	Introduction to Sociology	3
PSY	101	General Psychology I	3

Third Semester

NRS	233	Nursing III	9
BIO	211	Microbiology	4

Fourth Semester

NRS	234	Nursing IV	9
NRS	235	Nursing V (Nursing Seminar)	2
Any History course			3

Note: Students planning to enter the program directly from high school should contact the Nursing Department for information on admission criteria.

Note: This Nursing Program is approved by the New Jersey Board of Nursing, 124 Halsey Street, 6th Floor, Newark, New Jersey 07102 (Web address: www.njconsumeraffairs.gov/medical/nursing.htm Tel: (973) 504-6430), and the National League for Nursing Accrediting Commission (NLNAC), Inc., 61 Broadway, 33rd Floor, New York, New York 10006 (Web address: www.nlnac.org Tel: (800) 669-1656 x153)

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Nursing: LPN Articulation Option

Department of Nursing — Curriculum Code: 2104
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why should I choose this Option?

The LPN Articulation Option of the Nursing program provides an opportunity for Licensed Practical Nurses to gain credit for previous LPN education and license toward completion of the Associate Degree Nursing Program. The nursing program prepares the student for entry-level positions in hospitals and other health care facilities. Upon completion of the program, the student is eligible for the RN-NCLEX exam.

Are there any requirements I must satisfy before I start taking courses in my major?

The student must possess a current LPN/LVN license, a high school diploma or GED, and have the official transcript of the state approved or NLN accredited Practical Nursing Program sent to the Nursing Department. Applicants should enter the college as a general science student with a major in nursing. Completion of all remediation is necessary to proceed to the prerequisite courses. The minimum standards for admission are:

- College-level performance in English, reading and mathematics;
- College GPA of 2.5 or better;
- Completion of CHM 101(or CHM 103), BIO 121, ENG 101, ENG 102, and PSY 101 with a "C" or better. BIO 121 and BIO 122 should have been completed within five years of admission. You can repeat a science course one time only;
- A satisfactory score on the Nursing admission exam;
- A minimum of six months of current full-time medical-surgical clinical experience.
- Current LPN/LVN License

Students must submit a letter to the nursing department no later than Summer I when nearing completion of the prerequisites courses.

How does this Option benefit the LPN?

The LPN can test out of Nursing I and segments of Nursing II. Upon successful completion of two courses, LPN Mobility I (NRS 106) and LPN Mobility II (NRS 111), students enter Nursing III and can complete the Nursing Program by successfully completing Nursing III, Nursing IV and Nursing V in the generic track. Upon successful completion of the program, graduates are awarded the Associate in Applied Science degree with a major in Nursing and are eligible to sit for the NCLEX-RN. Upon successful completion of NRS 106 and NRS 111, the LPN will be awarded six credits of Nursing for their LPN education (NRS 999).

How long will it take me to complete this degree?

The LPN Articulation Option runs over a year and a half.

Where should I direct specific questions about this program?

Call the Department at (973) 877-1868.

Upon completion of this program, graduates will be able to:

- Assess clients utilizing Maslow's Hierarchy of Needs and Erikson's developmental theory as a framework to contribute to the data base;
- Use critical thinking when applying the nursing process;
- Formulate nursing diagnoses when potential and/or actual unmet needs cause health alterations;
- Develop a plan of care for clients in collaboration with other members of the healthcare team which incorporates clinical decision making, short and long term client-centered goals, and appropriate nursing interventions that are based on scientific rationale;
- Implement caring interventions, complex nursing skills, and current technology in a safe and competent manner;
- Evaluate the effectiveness of nursing care based upon established outcome criteria and revise care plan as needed;
- Implement nursing care responsive to the clients' cultural diversity and advocacy needs;
- Employ appropriate communication skills with clients, peers, and members of the health care team in the health care setting;
- Implement teaching plans to promote health in clients and their families;
- Practice nursing within the legal and ethical framework of the nursing profession;
- Demonstrate a commitment to one's own professional and personal growth; and
- Manage nursing care for groups of clients within the scope of ADN nursing practice.

Nursing: LPN Articulation Option — A.A.S. Degree Program

(Also see General Science - A.S. Degree Program)

GENERAL EDUCATION REQUIREMENTS:
(20 Credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

SOC	101	Introduction to Sociology	3
PSY	101	General Psychology I	3

Lab Science/Math (5 credits)

MTH	116	Medical Mathematics	1
BIO	121	Anatomy & Physiology I	4

Humanities (3 credits)

Any History course			3

MAJOR COURSE REQUIREMENTS:
(46 credits)

BIO	122	Anatomy and Physiology II	4
CHM	101	College Chemistry I **or**	
CHM	103	General Chemistry I	4
BIO	211	Microbiology	4
NRS	106	LPN Mobility I*	2
NRS	111	LPN Mobility II*	6
NRS	233	Nursing III	9
NRS	234	Nursing IV	9
NRS	235	Nursing V (Nursing Seminar)	2
NRS	999	LPN Education	6

*Upon successful completion of NRS 106 and NRS 111, the LPN will be awarded six credits of Nursing for the LPN education (NRS 999).

Total Credits Required for Degree: 66

The minimum passing grade for all courses designated BIO, CHM, MTH or NRS is "C." If you earn a grade below "C," you will need to repeat that course.

Note: Consult the program handbook for specific information on licensure requirements.

RECOMMENDED SEQUENCE OF COURSES**

Prerequisite Courses

BIO	121	Anatomy and Physiology I	4
BIO	122	Anatomy and Physiology II	4
CHM	101	College Chemistry I **or**	
CHM	103	General Chemistry I	4
ENG	101	College Composition I	3
ENG	102	College Composition II	3
PSY	101	General Psychology I	3

First Semester

NRS	106	LPN Mobility I*	2
NRS	111	LPN Mobility II *	6
MTH	116	Medical Mathematics	1
BIO	211	Microbiology	4

Second Semester

NRS	233	Nursing III	9
SOC	101	Introduction to Sociology	3
NRS	999	LPN Education	6

Third Semester

NRS	234	Nursing IV	9
NRS	235	Nursing V (Nursing Seminar)	2
Any History Course			3

***Note:** This Nursing Program is approved by the New Jersey Board of Nursing, 124 Halsey Street, 6th Floor, Newark, New Jersey 07102 (Web address: www.njconsumeraffairs.gov/medical/nursing.htm Tel: (973) 504-6430), and the National League for Nursing Accrediting Commission (NLNAC), Inc., 61 Broadway, 33rd Floor, New York, New York 10006 (Web address: www.nlnac.org) Tel: (800) 669-1656 x153

Note: Students enrolled in the Nursing Program will be required to submit to criminal background checks, health clearance, and CPR certification in connection with their clinical placement at certain health care organizations. All expenses for health clearance, criminal background checks, and CPR certification are the responsibility of the student.

****NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Office Assistant Program

Division of Business — Curriculum Code: 3009
Will Earn Upon Program Completion: Certificate in Office Assistant

Why become an Office Assistant?

This major is designed for students who wish to gain proficiency in the use of computers, office equipment, and software packages used in modern office environments. Students are also taught organizational skills, time management, and how to work cooperatively with office personnel. Students may choose to apply the credits earned in this program toward the A.A.S. degree option in Business Administration: Office Systems Technology and Management option.

If I major in Office Assistant, can I transfer to an upper-division college or university?

While the program is not designed to transfer to a baccalaureate program, Essex County College will apply some or most of the courses you have taken toward an associate degree. Consult your faculty advisor for more information.

Are there any requirements I must satisfy before I start taking courses?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this certificate?

If you do not need developmental course work and take 14 credits in the first semester and 15 credits in the second semester, you can complete the certificate in two semesters.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Use state-of-the-art word processing software to prepare a wide range of business documents;
- Communicate effectively, orally and in writing, using business terms and concepts;
- Work in accordance with the expectations of supervisory managers;
- Design, create, and maintain spreadsheets utilizing Microsoft Excel; and
- Use desktop publishing software to develop presentations.

Office Assistant — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(3 credits)

Communications (3 credits)

ENG	101	College Composition I	3

MAJOR COURSE REQUIREMENTS:
(14 credits)

OST	106	Keyboarding and Formatting I	4
OST	121	Business Communication	3
OST	210	Office Systems Management	3
OST	250	Word/Information Processing Applications I	4

ADDITIONAL COURSE REQUIREMENTS:
(12 credits)

BUS	101	Business Organization & Management	3
BUS	141	Business Math	3
CIS	135	Microcomputer Spreadsheets	3
CIS	136	Desktop Publishing for IBM Compatibles	3

Total Credits Required for Certificate: 29

RECOMMENDED SEQUENCE OF COURSES*

First Semester

BUS	101	Business Organization & Management	3
BUS	141	Business Math	3
ENG	101	College Composition I	3
OST	106	Keyboarding and Formatting I	4
CIS	135	Microcomputer Spreadsheets	3

Second Semester

OST	250	Word/Information Processing Applications I	4
OST	121	Business Communication	3
CIS	136	Desktop Publishing for IBM Compatibles	3
OST	210	Office Systems Management	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Physical Education Program

Division of Social Science — Curriculum Code: 0899
Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Physical Education?

The curriculum parallels the first two years of a baccalaureate degree in a four-year college or university and will also serve as preparation for careers such as: teacher of health and physical education, recreation director, private fitness center administrator, personal trainer/coach.

If I major in Physical Education, can I transfer to an upper-division college or university?

Yes. Essex grants the two-year degree and the student can complete the next two years at an upper-level institution to obtain a bachelor's degree in the field.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in mathematics, English and/or reading before taking courses at the 100 level and above.

How long will it take for me to complete this degree?

If you do not need developmental course work and if you register for an average of 16 credits each semester, you can complete the degree in two years.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3250 for referral to a faculty advisor or counselor.

Upon completion of this program, graduates will be able to:

- Demonstrate a wide variety of physical skills, and the techniques and mechanics of activity;
- Practice preventive measures and first aid in the event of accidents or illness;
- Demonstrate mastery of the concepts related to health and physical fitness;
- Demonstrate knowledge of the fundamentals and techniques of specific sports;
- Make informed career choices; and
- Qualify for interim employment opportunities.

Physical Education — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS: (33-35 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (10-12 credits)

A Lab Science sequence and a Math course (100 or higher) or two Math courses (100 or higher) and a Lab Science course:

MTH (100 level or higher)	3-8
BIO 101-102, 103-104, or 121-122; CHM 101-102 or 103-104; PHY 101-102, 103-104, or 113-114	4-8

Physical Education (2 credits)

PHE	119	Concepts in Physical Education	2

Humanities (9 credits)

Any course within a History sequence	3
Any 200-level English literature course	3
ART 100, 101, 102, or 200 **or** MUS 100, 108, 109, or 117	3

MAJOR COURSE REQUIREMENTS: (17 credits)

HLT	101	Healthful Living	3
PHE	101	Introduction to Physical Education	2
PHE	115	First Aid and Safety	2
Note:		All Physical Education students must select any ten activity courses.	10

ADDITIONAL COURSE REQUIREMENTS: (13-14 credits)

Any English literature course	3
PHE elective	1-2
Complete the History sequence	3
Social Science course (100-level or higher)	3
BUS 101 Business Organization & Mgmt.	3
Total Credits Required for Degree:	**63-66**

RECOMMENDED SEQUENCE OF COURSES*

First Semester

ENG	101	College Composition I	3
BIO	101	College Biology I	4
Social Science requirement			3
PHE	101	Introduction to Physical Education	2
PHE		(3 Activity courses)	3

Second Semester

ENG	102	College Composition II	3
BIO	101	College Biology II	4
PHE	119	Concepts in Physical Education	2
Math requirement			3-4
PHE		(3 Activity courses)	3

Summer

Social Science requirement	3
Art/Music requirement	3

Third Semester

English literature (200-level)	3
Social Science requirement	3
History requirement	3
HLT 101 Healthful Living	3
PHE (4 Activity courses)	4

Fourth Semester

English literature (200-level)	3
History requirement	3
PHE 115 First Aid and Safety	2
BUS 101 Business Organization & Mgmt.	3
PHE elective	1-2

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Physical Therapist Assistant Program

Division of Allied Health — Curriculum Code: 2106
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in the Physical Therapist Assistant Program?
"When a hand cannot grasp, one cannot hold another." Physical therapist assistants have the rewarding opportunity to make a positive difference in the quality of people's lives. Their work involves extensive contact with both patients and other health care professionals. Physical therapist assistants work under the supervision of a physical therapist in implementing treatment programs specific to the plan of care. Physical therapist assistants work in hospitals, private physical therapy offices, community health centers, corporate or industrial health centers, sports facilities, research institutions, rehabilitation centers, nursing homes, home health agencies, schools, pediatric centers, and colleges and universities.

If I major in the Physical Therapist Assistant Program, can I transfer to an upper-division college or university?
The physical therapist assistant curriculum differs from that of the physical therapist curriculum. Under most circumstances this degree is not transferable; however, our Program has an articulation agreement with Mercy College (Dobbs Ferry, NY) that will enable graduates to transfer directly into their Physical Therapy Program. There are also other accredited programs designed to allow experienced physical therapist assistants to continue working while attending a physical therapist master's degree program on the weekends.

Are there any requirements I must satisfy before I start taking courses in my major?
Admission into the professional component of the program is selective. Application deadline is June 1 for enrollment in the following fall semester. The following are the minimum requirements for admission:

- Be at the college level in reading, English, and mathematics, which may require the completion of developmental courses based on placement test scores;
- Have a grade of "C" or better in each of the following prerequisite courses: BIO 121, ENG 101, PSY 101, and a minimum GPA of 2.5 or higher;
- Perform successfully on the HOBET (Health Occupations Basic Entrance Test); and
- Complete 50 volunteer hours in a physical therapy setting

How long will it take for me to complete this degree?
If you do not need developmental courses and have completed the prerequisite courses for admission, you can complete the professional phase of the program in five academic semesters.

Where should I direct specific questions about this program?
Contact the Division at (973) 877-3354.

Upon completion of this program, graduates will be able to:

- Work under the supervision of a physical therapist in an ethical, legal, safe, and effective manner.
- Implement a comprehensive treatment plan developed by a physical therapist;
- Communicate regularly with the supervising physical therapist about the patient's progress and the need for adjustments to be made by the physical therapist in treatment procedures in accordance with changes in patient status;
- Perform appropriate measurement and assessment techniques within the knowledge and limits of practice to assist the supervising physical therapist in monitoring and modifying the plan of care;
- Interact with patients and families in a manner that provides the desired psychosocial support including the recognition of cultural and socioeconomic differences;
- Participate in the teaching of other health care providers, patients, and families;
- Document relevant aspects of patient treatment;
- Participate in discharge planning and follow up care;
- Demonstrate effective written, oral, and nonverbal communication with patients and their families, colleagues, health care providers, and the public;
- Have an understanding of levels of authority and responsibility; planning, time management, supervisory process, performance evaluations, policies and procedures; fiscal considerations for physical therapy providers and consumers; and, continuous quality improvement; and
- Interpret professional literature.

Physical Therapist Assistant — A.A.S. Degree Program

(Also see General Science - A.S. Degree Program)

GENERAL EDUCATION REQUIREMENTS:
(19 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

PSY	101	General Psychology I	3
PSY	209	Abnormal Psychology	3

Lab Science (4 credits)

BIO	121	Anatomy & Physiology I	4

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(49 credits)

BIO	122	Anatomy and Physiology II	4
BIO	222	Kinesiology	4
HSC	109	Medical Terminology	3
PTA	101	Fund. of Physical Therapist Asst.	5
PTA	102	Princ. of Physical Therapist Asst. I	5
PTA	103	Physical Therapist Assisting Pract. I	5
PTA	106	Therp. Devel. in Children and Geron.	3
PTA	201	Princ. of Physical Therapist Asst. II	4
PTA	202	Princ. of Physical Therapist Asst. III	4
PTA	203	Physical Therapist Assisting Pract. II	4
PTA	205	Physical Therapist Assisting Pract. III	6
PTA	209	Therapeutic Exercise	2

Note: The minimum passing grade for all courses designated BIO, CHM, HSC, and PTA is "C." If you earn a grade below "C," you need to repeat that course.

Total Credits Required for Degree: 69

RECOMMENDED SEQUENCE OF COURSES*

Pre-admission

ENG	101	College Composition I	3
PSY	101	General Psychology I	3
BIO	121	Anatomy and Physiology I	4

First Semester

PTA	101	Fund. of Physical Therapist Asst. I	5
HSC	109	Medical Terminology	3
BIO	122	Anatomy and Physiology II	4
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Second Semester

PTA	102	Princ. of Physical Therapist Asst. I	5
PTA	106	Therp. Devel. in Children and Geron.	3
PSY	209	Abnormal Psychology	3

Summer

PTA	103	Physical Therapist Assisting Pract. I	5

Third Semester

PTA	201	Princ. of Physical Therapist Asst. II	4
PTA	203	Physical Therapist Assisting Pract. II	4
PTA	209	Therapeutic Exercise	2
BIO	222	Kinesiology	4

Fourth Semester

PTA	202	Princ. of Physical Therapist Asst. III	4
PTA	205	Physical Therapist Assisting Pract. III	6
History requirement			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Radiography Program

A Joint Admissions Program with the University of Medicine and Dentistry of NJ

Division of Allied Health — Curriculum Code: 2105

Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Radiography?

Radiography involves assisting in the diagnosis and management of human illness by producing images (also called radiographs or X-rays) of the structures in the body. Students receive hands-on training in radiographic procedures and imaging modalities, and in operating room and fluoroscopic procedures. Graduates of the program become eligible to take the licensing exams to qualify to work with physicians in offices, clinics, and hospitals. As a radiographer, you can specialize in mammography, computed tomography (CT), digital vascular imaging (angiography), ultrasound, and magnetic resonance imaging (MRI). Related jobs can be found in manufacturing firms and medical supply companies. The program is accredited by the Joint Review Committee on Education in Radiologic Technology (20 N. Wacker Drive, Chicago, IL 60606).

If I major in Radiography, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program. However, colleges and universities, including Thomas Edison State and the University of Medicine and Dentistry of New Jersey, may apply most or all of the courses you have taken towards a bachelor's degree.

Are there any requirements I must satisfy before I start taking courses in my major?

Admission into the professional component of the program is selective. Application deadline is March 15 for enrollment in the following fall semester. The following are the minimum requirements for admission:

- Be at the college level in reading, English, and mathematics, which may require the completion of developmental courses based on placement test scores;
- Have a grade of "C" or better in each of the following prerequisite courses: BIO 121, ENG 101, MTH 100, and HSC 109, and a minimum GPA of 2.5 or higher; and
- Perform successfully on the HOBET (Health Occupations Basic Entrance Test).

How long will it take for me to complete this degree?

If you do not need developmental courses and have completed the prerequisite courses for admission, you can complete the professional phase of the program in 24 months.

Where should I direct specific questions about this program?

Call the Division at (973) 877-3354.

Upon completion of this program, graduates will be able to:

- Take the American Registry of Radiologic Technology (ARRT) Examination and the New Jersey State Licensure Exam;
- Work in a career with a promising future and, as a Registered Technologist (RT), work in any of the 50 states;
- Use X-ray equipment to produce images of internal body structures;
- Specialize in Mammography, Computed Tomography (CT), Magnetic Resonance Imaging (MRI), or other imaging specialties; and
- Become a vital member of the patient care team.

Radiography — A.A.S. Degree Program

(Also see General Science - A.S. Degree Program)

GENERAL EDUCATION REQUIREMENTS:
(18-19 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Math (3-4 credits)

Math 100 or higher	3-4

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS:
(54 credits)

BIO	121	Anatomy & Physiology I	4
BIO	122	Anatomy & Physiology II	4
HSC	109	Medical Terminology	3
RTC	100	Radiologic Technology I	2
RTC	101	Radiologic Positioning Principles I	4
RTC	102	Recording Media	1
RTC	103	Patient Care/Ethics	2
RTC	104	Radiation Protection	2
RTC	105	Radiologic Technology II	2
RTC	106	Radiologic Positioning Principles II	4
RTC	107	Contrast Media (Pharmacology)	2
RTC	108	Clinical Radiography I	1
RTC	109	Radiologic Positioning Prin. III: Skull	2
RTC	110	Radiologic Adv. Positioning Prin. IV	1
RTC	111	Clinical Radiography II	1
RTC	112	Clinical Radiography III	2
RTC	200	Radiographic Pathology	2
RTC	201	Radiation Biology	2
RTC	202	Clinical Radiography IV	2
RTC	203	Special Procedures	3
RTC	204	Pediatrics/Geriatrics Radiography	2
RTC	205	Clinical Radiography V	2
RTC	206	Clinical Radiography VI	2
RTC	207	Clinical Radiography VII	2

The minimum passing grade for all courses designated BIO, CHM, HSC, MTH and RTC is "C." If you earn a grade below "C," you need to repeat that course.

Total Credits Required for Degree: 72-73

RECOMMENDED SEQUENCE OF COURSES*

Pre-admission

ENG	101	College Composition I	3
BIO	121	Anatomy and Physiology I	4
Math requirement			3-4
HSC	109	Medical Terminology	3

First Semester

RTC	100	Radiologic Technology I	2
RTC	101	Radiologic Positioning Principles I	4
RTC	102	Recording Media	1
RTC	103	Patient Care/Ethics	2
RTC	104	Radiation Protection	2
BIO	122	Anatomy & Physiology II	4

Second Semester

RTC	105	Radiologic Technology II	2
RTC	106	Radiologic Positioning Principles II	4
RTC	107	Contrast Media (Pharmacology)	2
RTC	108	Clinical Radiography I	1
Social Science requirement			3

Summer

RTC	109	Radiologic Positioning Prin. III: Skull	2
RTC	110	Radiologic Adv. Positioning Prin. IV	1
RTC	111	Clinical Radiography II	1
RTC	112	Clinical Radiography III	2

Third Semester

RTC	200	Radiographic Pathology	2
RTC	201	Radiation Biology	2
RTC	202	Clinical Radiography IV	2
ENG	102	College Composition II	3
Social Science requirement			3

Fourth Semester

RTC	203	Special Procedures	3
RTC	204	Pediatrics/Geriatrics Radiography	2
RTC	205	Clinical Radiography V	2
History requirement			3

Summer

RTC	206	Clinical Radiography VI	2
RTC	207	Clinical Radiography VII	2

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Respiratory Care Program

A Joint Admissions Program with the University of Medicine and Dentistry of NJ

Division of Allied Health — Curriculum Code: 2112

Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Respiratory Care?

Respiratory therapists are health care specialists who participate in the diagnosis, treatment, management, education, and preventive care of patients with disorders of the cardiopulmonary system. They work in hospitals, caring for patients on medical and surgical wards, in emergency rooms, in neonatal, adult, and cardiac intensive care units, and in outpatient departments. They also provide care in patients' homes, rehabilitation centers, nursing homes, and other healthcare facilities. The curriculum parallels the first two years of a bachelor's degree program in the field. The program is accredited by the Commission on Accreditation of Allied Health Programs (CAAHP) in collaboration with the Committee on Accreditation for Respiratory Care (CoARC). Experienced therapists with advanced education qualify for teaching positions or managerial jobs in areas such as equipment sales and marketing.

If I major in Respiratory Care, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program. However, colleges and universities, including the University of Medicine and Dentistry of New Jersey (UMDNJ), New Jersey City University, and Thomas Edison State College will apply most or all of the courses you have taken toward a bachelor's degree.

Are there any requirements I must satisfy before I start taking courses in my major?

Admission into the program is selective. Application deadline for admission into the professional component of the program at the University of Medicine and Dentistry of New Jersey (UMDNJ) is February 1 for courses beginning the following June. **Each student must meet with a program advisor prior to submission of an application.** Students are chosen by a joint admissions committee of both institutions. The following are the minimum requirements for admission:

- Be at the college level in reading, English, and mathematics, which may require the completion of developmental courses based on placement test scores;
- Complete a 35-credit pre-professional component of general education courses and basic science courses and have a cumulative grade point average of 2.5 or better;
- Have a passing grade of "C" for all courses designated BIO, CHM, or MTH; and
- Have a current CPR card (BLS-C for health care providers).

How long will it take me to complete this degree?

Following completion of the prerequisite course work, the professional phase of the Respiratory Care Program can be completed within two academic semesters and one summer semester as a full-time student. Should a part-time schedule be requested and approved, the student will have a maximum of four academic semesters and two summer terms to complete the course work (part-time option is granted on a case by case basis).

Where should I direct specific questions about this program?

Call the Division at (973) 877-3354.

Upon completion of this program, graduates will be able to:

- Take the entry and registry examinations offered by the National Board for Respiratory Care, and obtain the New Jersey State Board of Respiratory Care license;
- Obtain and analyze physiological specimens;
- Interpret physiological data;
- Perform tests and studies of the cardiopulmonary system;
- Perform neurophysiological studies and sleep disorder studies;
- Identify medical gases and environmental control systems;
- Perform mechanical ventilator support;
- Perform oxygen therapy, humidification, and aerosol therapy;
- Administer artificial airway care;
- Perform bronchopulmonary hygiene;
- Utilize pharmacological agents related to respiratory care procedures;
- Assist in cardiopulmonary rehabilitation and hemodynamic cardiovascular support;
- Perform cardiopulmonary resuscitation;
- Educate patients and family on the disease process, medical therapy, and self-help; and
- Promote cardiopulmonary wellness and disease prevention measures.

Respiratory Care — A.S. Degree Program

(Also see General Science - A.S. Degree Program)

GENERAL EDUCATION REQUIREMENTS: (33 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (12 credits)

BIO	121	Anatomy & Physiology I	4
BIO	122	Anatomy & Physiology II	4
MTH	100	Introductory College Math	4

Humanities (9 credits)

Any History course	3
Any 200-level English literature course	3
Art/Music requirement	3

ADDITIONAL COURSE REQUIREMENTS: (8 credits)

BIO	211	Microbiology	4
CHM	101	College Chemistry I	4

MAJOR COURSE REQUIREMENTS: (31 credits)

RST	100	Core Concepts in Respiratory Care	1
RST	110	Fundamentals of Respiratory Care	4
RST	118	Clinical Practice I	1
RST	123	Applied Cardiopulmonary Patho. I	2
RST	125	Principles of Ventilatory Support	4
RST	128	Clinical Practice II	2
RST	138	Clinical Practice III	3
RST	212	Cardiopulmonary Pharmacology	2
RST	213	Applied Cardiopulmonary Patho. II	2
RST	214	Patient Management - Critical Care	3
RST	223	Cardiopulmonary Evaluation	2
RST	225	Pediatric/Neonatal Respiratory Care	3
RST	237	Long-Term, Home Rehabilitative Care	3

The minimum passing grade for all courses designated BIO, CHM, MTH or RST is "C." If you earn a grade below "C," you need to repeat that course.

Total Credits Required for Degree: 72

RECOMMENDED SEQUENCE OF COURSES*

See program advisor for recommended sequence of General Education and additional course requirements.

Summer Semester

RST	100	Core Concepts in Respiratory Care	1
RST	110	Fundamentals of Respiratory Care	4
RST	118	Clinical Practice I	1
RST	123	Applied Cardiopulmonary Patho. I	2

Fall Semester

RST	125	Principles of Ventilatory Support	4
RST	128	Clinical Practice II	2
RST	212	Cardiopulmonary Pharmacology	2
RST	213	Applied Cardiopulmonary Patho. II	2
RST	223	Cardiopulmonary Evaluation	2

Spring Semester

RST	138	Clinical Practice III	3
RST	214	Patient Management - Critical Care	3
RST	225	Pediatric/Neonatal Respiratory Care	3
RST	237	Long-Term, Home Rehabilitative Care	2

**All RST or Respiratory Care courses are offered through UMDNJ - School of Health Related Professions.

* **NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Retail Sales Specialist Program

Division of Business — Curriculum Code: 200R

Will Earn Upon Program Completion: Certificate in Retail Sales

Why major in Retail Sales?

This certificate program prepares students for employment as retail salespeople in the automotive, furniture, clothing, electronics, general merchandise, and other service oriented retai companies. The program, offered within the Business Division at ECC, teaches students effective communications skills, basic business concepts, human and group behavior, business mathematics, and effective face-to-face selling techniques. Students also learn the value of effective advertising and promotion in developing and reinforcing the retail sales approach.

Are there any requirements I must satisfy before I start taking courses in my major?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take me to complete this degree?

If you do not need developmental course work, you can complete the certificate in two semesters.

Where should I direct specific questions about this program?

Call the Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of the business enterprise;
- Use the language of business in writing and speaking;
- Demonstrate a complete understanding of the selling process;
- Sell ideas and products effectively;
- Perform basic business calculations;
- Recognize and categorize the various types of retailers;
- Manipulate the elements of the marketing mix;
- Recognize and develop effective advertising and promotional materials;
- Use appropriate media based on both quantitative and qualitative analysis; and
- Apply pricing policies to achieve desired margins and profits.

Retail Sales Specialist — Certificate

GENERAL EDUCATION REQUIREMENTS:
(12 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	109	Effective Speech	3

Social Science (6 credits)

PSY	101	General Psychology I	3
SOC	101	Introduction to Sociology	3

MAJOR COURSE REQUIREMENTS:
(18 credits)

BUS	101	Business Organization & Management	3
BUS	141	Business Math	3
BUS	211	Principles of Marketing	3
BUS	212	Principles of Retailing	3
BUS	213	Principles of Selling	3
BUS	215	Advertising Principles	3
CIS	107	Computer Literacy **or**	3
CIS	131	Microcomputers in Business	

Total Credits Required for Certificate: 33

RECOMMENDED SEQUENCE OF COURSES**

First Semester

BUS	101	Business Organization & Mgt.	3
ENG	101	College Composition I	3
PSY	101	General Psychology I	3
BUS	141	Business Math	3
SOC	101	Introduction to Sociology	3

Second Semester

ENG	109	Effective Speech	3
BUS	211	Principles of Marketing	3
BUS	212	Principles of Retailing	3
BUS	213	Principles of Selling	3
BUS	215	Advertising Principles	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Social Sciences Program

Division of Social Sciences — Curriculum Code: 0710
Will Earn Upon Program Completion: Associate in Science (A.S.) Degree

Why major in Social Science?

This program provides you with a foundation for majoring in areas such as sociology, psychology, pre-law, social work, gerontology, anthropology, counseling, political science or urban studies at a four-year college or university. The curriculum parallels the first two years at a four-year institution. The program is best suited for those interested in human behavior and in helping individuals and communities.

If I major in Social Science can I transfer to an upper-division college or university?

The curriculum prepares you for transfer to upper-division colleges and universities to pursue a bachelor's degree. Students should consult the catalog of the college or university to which they plan to transfer upon graduation from ECC in order to select courses at ECC that they can apply toward a bachelor's degree in an area of social science that they choose.

Are there any requirements I must satisfy before I start taking courses in my major?

Students must complete all required developmental courses in reading, writing, and mathematics as well as other pre- and/or co-requirements for some of the courses.

How long will it take for me to complete this degree?

If you do not need developmental course work and you register for an average of 17 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3250.

Upon completion of this program, graduates will be able to:

- Demonstrate knowledge of diverse cultures and social structures;
- Demonstrate knowledge of psycho-social factors that influence human behavior;
- Recognize social and political trends within a society;
- Demonstrate in-depth knowledge via formal research reports on varied topics in the Social Science disciplines;
- Demonstrate knowledge of the ways of thinking or methods of analysis associated with significant modes of inquiry represented by Social Science disciplines; and
- Demonstrate knowledge of the skills and attitudes of professional practice in Social Service occupations.

Social Sciences — A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS: (33-36 Credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101 or SOC 101	3
Any ANT, POL, PSY or SOC course	3

Lab Science/Math (10-12 credits)

A Lab Science sequence and a Math course (100 or higher) or two Math courses (100 or higher) and a Lab Science course.

MTH (100 level or higher)	3-8
BIO 101-102; 103-104, or 121-122; CHM 101-102 or 103-104; PHY 101-102, 103-104, or 113-114	4-8

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (9 credits)

Any 200-level English literature course	3
Any History course within a sequence	3
ART 100, ART 101, ART 102, ART 200, MUS 100, MUS 108, MUS 109, or MUS 117	3

MAJOR COURSE REQUIREMENTS: (15 credits)

*Select five courses from the Social Sciences: ANT, CJI, EDU, POL, PSY, SOC	15

ADDITIONAL COURSE REQUIREMENTS: (15 credits)

English literature elective	3
Completion of History sequence	3
Humanities elective (Spanish I or French I recommended)	3
Free electives (Completion of Language sequence recommended***)	6

Total Credits Required for Degree: 63-66

***Other courses may be substituted for recommended courses.

RECOMMENDED SEQUENCE OF COURSES**

First Semester

ENG	101	College Composition I	3
Social Science requirement			3
PHE/HLT requirement			2-3
Free elective			3
Social Science requirement			3

Second Semester

ENG	102	College Composition II	3
Social Science major requirement*			3
Lab Science requirement			4
History course within a sequence			3
ART/MUS requirement			3

Third Semester

English literature (200-level)	3
Humanities elective	3
Math requirement/Lab Science sequence	3-4
Completion of History sequence	3
Social Science major requirement*	3

Fourth Semester

English literature (200-level)	3
Humanities elective	3
Math requirement	3-4
Three Social Science major requirements*	9

*If you plan to pursue **Psychology** at a four-year institution, it is recommended that you take five of the following six courses:

PSY	102	General Psychology II	3
PSY	205	Theories of Personality	3
PSY	209	Abnormal Psychology **or**	3
PSY	225	Child and Adolescent Abnormal Psychology	
PSY	211	Social Psychology	3
PSY	219	Child Psychology & Development	3

*If you plan to pursue **Sociology** at a 4-year institution, it is recommended that you take five of the following six courses:

SOC	108	Social Problems	3
SOC	203	Racial & Cultural Minorities	3
SOC	204	Urban Sociology	3
SOC	205	Sociology of the Black Community in Contemporary America	3
SOC	206	Social Stratification	3
SOC	219	Sociology of the Family	3

**NOTE: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Technical Studies Program

Division of Engineering Technologies and Computer Sciences — Curriculum Code: 5304
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Technical Studies?

Technical Studies is a unique program designed to ensure the validity of nontraditional learning and promote adult access to and success in postsecondary education and the workforce. By majoring in Technical Studies, you can transfer approved credits from workforce training programs, including those in the corporate, industrial, or military sectors, and earn a college degree.

If I major in Technical Studies, can I transfer to an upper-division college or university?

Most four-year colleges and universities in New Jersey accept training credits recommended by the American Council on Education (ACE), which is one of the organizations that evaluate training programs. Therefore, you can transfer your Technical Studies credits to a professional studies baccalaureate program at an upper-division college or university.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students take a basic skills competency test. Based on the results of the test, you may be required to take developmental courses in English and mathematics. You must also have your training credits evaluated by a faculty assessor.

How long will it take for me to complete this degree?

If you do not need developmental course work and you attend full time, you can complete the degree in two years. Part-time students who work full time can complete the program in three or four years. If you have earned up to 15 Technical Studies credits you can reduce the time to complete the degree.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-4400.

Upon completion of this program, graduates will be able to:

- Demonstrate the necessary technical skills to be more productive in their chosen profession and career;
- Demonstrate competence in a broad array of intellectual and communications skills;
- Compete effectively in a technology-based global economy;
- Develop a broad base of knowledge;
- Think creatively;
- Communicate effectively; and
- Think analytically and critically.

Technical Studies — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS:
(24-26 Credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101 or SOC 101	3
Any ANT, POL, PSY or SOC course	3

Math (3-4 credits)

College-level math elective	3-4

Lab Science (4 credits)

Lab Science elective (PHY, BIO, or CHM)	4

Physical Education (2-3 credits)

PHE 119 or HLT 101	2-3

Humanities (3 credits)

Any History course (HST)	3

MAJOR COURSE REQUIREMENTS:
(33 credits)

Technical studies elective[1] **or**	
Technical electives[2]	15
Technical courses[3]	15
Internship/Co-op	3

ADDITIONAL COURSE REQUIREMENTS:
(3-4 credits)

Computer Science elective (CSC)	3-4

Total Credits Required for Degree: 60-63

MAJOR COURSE REQUIREMENTS (Cont.):

[1] Up to fifteen (15) Technical Studies credits may be earned from corporate, industrial, or military training programs after review by faculty assessor of the related program.

[2] Up to fifteen (15) technical electives credits may be earned from college-level courses in science, technology, engineering, and mathematics curricula having the following prefixes: CSC, CIS, MEC, MET, CET, ELC, ARC, ENR, MTH, and PHY.

[3] Select technical courses from the major course category of the following programs. (Courses must be approved by a qualified faculty advisor.)

Architectural Technology (2301)
Chemical Technology (2306)
Computer-Aided Design Technology (3205)
Computer Information Systems (2002)
Computer Science (2302)
Civil Construction Engineering Technology (5309)
Electronic Engineering Technology (2307)
Engineering (0399)
Internetworking Technology (3204)
Manufacturing Engineering Technology (5301)
Mechanical Engineering Technology (530E)
Networking Technology (3203)
(Additional programs may be added as appropriate.)

RECOMMENDED SEQUENCE OF COURSES**

Sequence of courses will be determined on an individual basis. See a faculty advisor for details.

****NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Uniform Construction Code Technology Programs

Division of Community and Continuing Education
Building Code Technology — Curriculum Code: 3052
Electrical Code Technology — Curriculum Code 3051
Will Earn Upon Program Completion: Certificate in Construction Code Technology

Why major in Uniform Construction Code Technology?

Certificate programs in Construction Code Enforcement have been designed to:

1. Offer the opportunity to fulfill the credentials for state-approved licensing requirements adopted by the New Jersey Uniform Construction Code, administered by the Department of Community Affairs;
2. Provide currently licensed code enforcement personnel a means by which to upgrade their educational credentials;
3. Prepare individuals for inspector-related employment in private industry.

The underlying principle of the certificate program is the protection of the health, safety, and welfare of the people in so far as they are affected by construction regulations.

If I major in Uniform Construction Code Technology, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program, but courses earned upon program completion may be applied to an associate degree program at ECC. Also, many four-year colleges and universities may apply some or all of the courses you have taken toward a bachelor's degree, depending upon their program requirements.

Are there requirements I must satisfy before I start taking courses in my major?

All students pursuing the certificate program must take the placement test. Developmental courses may be needed before enrolling in college level English.

How long will it take for me to complete this program?

If you do not need developmental course work and you register for an average of two courses each semester, you can complete the certificate in two years. You may shorten the amount of time by taking courses in the summer or by attending full-time. Most students in the program are working in the field and attend class in the evening.

Where should I direct specific questions about this program?

Contact the Director of Academic Programs/West Essex Campus at (973) 877-3096.

Upon completion of this program, graduates will be able to:

- Evaluate construction plans in terms of compliance with state and local codes;
- Determine whether construction is in conformance with approved plans;
- Apply technical and administrative code-related knowledge in code enforcement;
- Effectively use the English language skills gained in the program to comprehend and evaluate ideas in the context of code enforcement, and communicate them both orally and in writing;
- Be certified as a Sub-Code and Construction official; and
- Pass the National Certification Examination to become a licensed Residential, Industrial, High Rise, and Safety Inspector.

Building Code Technology — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(6 Credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	105	Technical Writing	3

MAJOR COURSE REQUIREMENTS:
(20 credits)

UCC	109	Subcode Official	3
UCC	110	Construction Official	3
UCC	120	Building Inspector RCS	4
UCC	121	Building Inspector ICS	6
UCC	220	Building Inspector HHS	4

ADDITIONAL COURSE REQUIREMENTS:
(6 credits)

ARC	131	Construction Methods I	3
ARC	132	Construction Methods II	3

Total Credits Required for Certificate: 32

RECOMMENDED SEQUENCE OF COURSES*:

First Semester

UCC	109	Subcode Official	3
UCC	120	Building Inspector RCS	4

Second Semester

UCC	110	Construction Official	3
UCC	121	Building Inspector ICS	6

Summer

UCC	220	Building Inspector HHS	4

Third Semester

ENG	101	College Composition I	3
ARC	131	Construction Methods I	3

Fourth Semester

ENG	105	Technical Writing	3
ARC	132	Construction Methods II	3

Electrical Code Technology — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(6 Credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	105	Technical Writing	3

MAJOR COURSE REQUIREMENTS:
(13 credits)

UCC	109	Subcode Official	3
UCC	110	Construction Official	3
UCC	130	Electrical Inspector ICS	4
UCC	230	Electrical Inspector HHS	3

ADDITIONAL COURSE REQUIREMENTS:
(6 credits)

ARC	131	Construction Methods I	3
ARC	132	Construction Methods II	3

Total Credits Required for Certificate: 25

RECOMMENDED SEQUENCE OF COURSES*:

First Semester

UCC	109	Subcode Official	3
UCC	130	Electrical Inspector ICS	4

Second Semester

UCC	110	Construction Official	3
UCC	230	Electrical Inspector HHS	3

Third Semester

ENG	101	College Composition I	3
ARC	131	Construction Methods I	3

Fourth Semester

ENG	105	Technical Writing	3
ARC	132	Construction Methods II	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Uniform Construction Code Technology Programs

Division of Community and Continuing Education
Fire Code Technology — Curriculum Code: 3050
Plumbing Code Technology — Curriculum Code 3053
Will Earn Upon Program Completion: Certificate in Construction Code Technology

Why major in Uniform Construction Code Technology?

Certificate programs in Construction Code Enforcement have been designed to:

1. Offer the opportunity to fulfill the credentials for state-approved licensing requirements adopted by the New Jersey Uniform Construction Code, administered by the Department of Community Affairs;
2. Provide currently licensed code enforcement personnel a means by which to upgrade their educational credentials;
3. Prepare individuals for inspector-related employment in private industry.

The underlying principle of the certificate program is the protection of the health, safety, and welfare of the people in so far as they are affected by construction regulations.

If I major in Uniform Construction Code Technology, can I transfer to an upper-division college or university?

The major is job-oriented and not designed for transfer to a baccalaureate program, but courses earned upon program completion may be applied to an associate degree program at ECC. Also, many four-year colleges and universities may apply some or all of the courses you have taken toward a bachelor's degree, depending upon their program requirements.

Are there requirements I must satisfy before I start taking courses in my major?

All students pursuing the certificate program must take the placement test. Developmental courses may be needed before enrolling in college level English.

How long will it take for me to complete this program?

If you do not need developmental course work, and you register for an average of two courses each semester, you can complete the certificate in two years. You may shorten the amount of time by taking courses in the summer or by attending full-time. Most students in the program are working in the field and attend class in the evening.

Where should I direct specific questions about this program?

Contact the Director of Academic Programs/West Essex Campus at (973) 877-3096.

Upon completion of this program, graduates will be able to:

- Evaluate construction plans in terms of compliance with state and local codes;
- Determine whether construction is in conformance with approved plans;
- Apply technical and administrative code-related knowledge in code enforcement;
- Effectively use the English language skills gained in the program to comprehend and evaluate ideas in the context of code enforcement, and communicate them both orally and in writing;
- Be certified as a Sub-Code and Construction official; and
- Pass the National Certification Examination to become a licensed Residential, Industrial, High Rise, and Safety Inspector.

Fire Code Technology — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(6 Credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	105	Technical Writing	3

MAJOR COURSE REQUIREMENTS:
(18 credits)

UCC	109	Subcode Official	3
UCC	110	Construction Official	3
UCC	140	Fire Protection Inspector ICS-Part I	4
UCC	141	Fire Protection Inspector ICS-Part II	4
UCC	240	Fire Protection Inspector HHS	4

ADDITIONAL COURSE REQUIREMENTS:
(6 credits)

ARC	131	Construction Methods I	3
ARC	132	Construction Methods II	3

Total Credits Required for Certificate: 30

RECOMMENDED SEQUENCE OF COURSES*:

First Semester

UCC	109	Subcode Official	3
UCC	140	Fire Protection Inspector ICS-Part I	4

Second Semester

UCC	110	Construction Official	3
UCC	141	Fire Protection Inspector ICS-Part II	4

Summer

UCC	240	Fire Protection Inspector HHS	4

Third Semester

ENG	101	College Composition I	3
ARC	131	Construction Methods I	3

Fourth Semester

ENG	105	Technical Writing	3
ARC	132	Construction Methods II	3

Plumbing Code Technology — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(6 Credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	105	Technical Writing	3

MAJOR COURSE REQUIREMENTS:
(16 credits)

UCC	109	Subcode Official	3
UCC	110	Construction Official	3
UCC	150	Plumbing Inspector ICS	6
UCC	250	Plumbing Inspector HHS	4

ADDITIONAL COURSE REQUIREMENTS:
(6 credits)

ARC	131	Construction Methods I	3
ARC	132	Construction Methods II	3

Total Credits Required for Certificate: 28

RECOMMENDED SEQUENCE OF COURSES*:

First Semester

UCC	109	Subcode Official	3
UCC	150	Plumbing Inspector ICS	6

Second Semester

UCC	110	Construction Official	3
UCC	250	Plumbing Inspector HHS	4

Third Semester

ENG	101	College Composition I	3
ARC	131	Construction Methods I	3

Fourth Semester

ENG	105	Technical Writing	3
ARC	132	Construction Methods II	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Vision Care Technology Program

Division of Allied Health — Curriculum Code: 2120
Will Earn Upon Program Completion: Associate in Applied Science (A.A.S.) Degree

Why major in Vision Care Technology?

The program introduces students to the field of opticianry. Students receive training in the laboratory techniques of measuring and grinding eyeglasses to prescription, and in fitting and final adaptation of eyewear. The curriculum also prepares students for the business administration functions of the profession and to pass the state licensing examination for Ophthalmic Technician and Ophthalmic Dispenser. To be successful in the field, you must combine scientific and clinical skills with the ability to work well with patients. Job opportunities include owning or working in a retail optical dispensary, or sales and marketing of ophthalmic materials. Employment prospects are increasing in the profession with the growth in the elderly population and the trend toward high fashion eyewear. The program is accredited by the Commission on Opticianry Accreditation (COA).

If I major in Vision Care Technology, can I transfer to an upper-division college or university?

The program is career-oriented, although students may choose to transfer their credits to four-year institutions in pursuit of a bachelor's degree in optometry, opticianry, or a related field.

Are there any requirements I must satisfy before I start taking courses in my major?

All new students must take the basic skills competency tests. Based on the results of the test, you may be required to take developmental courses in reading, English and/or mathematics. Prior completion of trigonometry, biology and physics at the high school level is strongly recommended.

How long will it take for me to complete this degree?

If you do not need developmental course work and you register for an average of 17 credits each semester, you can complete the degree in two years. You may shorten the amount of time by taking courses in the summer sessions.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3354.

Upon completion of this program, graduates will be able to:

- Demonstrate understanding of the responsibilities of the practicing optician, optometrist, and ophthalmologist;
- Explain how glass and other optical materials are manufactured;
- Analyze the ophthalmic prescription and its parts;
- Demonstrate the use of the lens meter;
- Perform ophthalmic finishing techniques;
- Keep basic records;
- Apply laboratory workshop safety procedures;
- Demonstrate proper dispensing skills;
- Demonstrate knowledge of the refractive implications of accommodation and convergence;
- Explain how a refractionist may determine the "ADD" power;
- Use basic optical problem-solving techniques; and
- Use basic techniques in bifocal height measurements.

Vision Care Technology — A.A.S. Degree Program

GENERAL EDUCATION REQUIREMENTS: (18-19 credits)

Communications (6 credits)

ENG	101	College Composition I	3
ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3

Social Science (6 credits)

ANT 101, POL 104, PSY 101, or SOC 101	3
Any ANT, POL, PSY, or SOC course	3

Lab Science/Math (3-4 credits)

MTH 100 or higher	3-4

Humanities (3 credits)

Any History course	3

MAJOR COURSE REQUIREMENTS: (42 credits)

BIO	125	Anat. & Physiology of the Eye	3
OPH	123	Ophthalmic Laboratory I	4
OPH	124	Ophthalmic Laboratory II	4
OPH	126	Ophthalmic Materials I	3
OPH	127	Ophthalmic Materials II	3
OPH	201	Ophthalmic Dispensing I	5
OPH	202	Ophthalmic Dispensing II	5
OPH	203	Contact Lenses I	3
OPH	204	Contact Lenses II	3
OPH	210	Principles of Refraction	3
OPH	273	Supervised Clinical Experience	3
PHY	111	Theory of Optics I	3

ADDITIONAL COURSE REQUIREMENTS: (10 credits)

ACC	101	Principles of Accounting I	4
BUS	101	Business Organization and Mgmt.	3
CIS	107, 131, 133, 135, or 137		3

The minimum passing grade for all courses designated BIO, OPH, or PHY is "C." If you earn a grade below "C," you need to repeat that course.

Total Credits Required for Degree: 70-71

For those individuals possessing a New Jersey Apprentice Dispensing permit, the following courses are offered to fulfill the requirement to obtain college credit to qualify for the State licensing examination.

OPH	123	Ophthalmic Laboratory I	4
OPH	124	Ophthalmic Laboratory II	4
OPH	126	Ophthalmic Materials I	3
OPH	127	Ophthalmic Materials II	3
OPH	201	Ophthalmic Dispensing I	5
OPH	202	Ophthalmic Dispensing II	5
OPH	203	Contact Lenses I	3
BIO	125	Anat. & Physiology of the Eye	3
PHY	111	Theory of Optics I	3

RECOMMENDED SEQUENCE OF COURSES*

First Semester

ENG	101	College Composition I	3
PSY	101	General Psychology I	3
Math requirement			3-4
OPH	123	Ophthalmic Laboratory I	4
OPH	126	Ophthalmic Materials I	3

Second Semester

ENG	102	College Composition II **or**	
ENG	105	Technical Writing	3
BIO	125	Anat. & Physiology of the Eye	3
CIS requirement			3
OPH	124	Ophthalmic Laboratory II	4
OPH	127	Ophthalmic Materials II	3

Summer

Social Science requirement	3

Third Semester

ACC	101	Principles of Accounting I	4
BUS	101	Business Organization & Mgmt.	3
OPH	201	Ophthalmic Dispensing I	5
OPH	203	Contact Lenses I	3
PHY	111	Theory of Optics I	3

Fourth Semester

OPH	202	Ophthalmic Dispensing II	5
OPH	204	Contact Lenses II	3
OPH	210	Principles of Refraction	3
OPH	273	Supervised Clinical Experience	3
History requirement			3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Word Processing Program

Division of Business — Curriculum Code: 3034
Will Earn Upon Program Completion: Certificate in Word Processing

Why major is Word Processing?

This certificate program is designed to prepare individuals for entry into or advancement in administrative support positions requiring computer proficiency. Word processing typists and data entry keyers are needed in most organizations to help process vast amounts of information. Students are also introduced to spreadsheets, databases, and desktop publishing software applications. The program includes courses in business communication, English composition, and office management.

If I major in Word Processing, can I transfer to an upper-division college or university?

While the program is not designed for transfer to a baccalaureate program, Essex County College will apply some or most of the courses you have taken toward an associate degree. Consult your faculty advisor for more information.

Are there any requirements I must satisfy before I start taking courses?

Based on your placement test scores, you may have to take developmental courses in reading, English, and/or mathematics before taking courses in your major.

How long will it take for me to complete this certificate?

If you do not need developmental course work, and you register for a minimum of 12 credits per semester, you can complete the certificate in three semesters.

Where should I direct specific questions about this program?

Contact the Division at (973) 877-3222.

Upon completion of this program, graduates will be able to:

- Demonstrate the ability to work with highly technical material, plan and type complicated statistical tables, combine and rearrange materials from different sources, and prepare master copies;
- Demonstrate proficiency in language arts — spelling, punctuation, grammar;
- Communicate effectively using e-mail and the Internet;
- Use advanced features of MS Word;
- Use beginning features of MS Excel;
- Use beginning features of MS PowerPoint;
- Demonstrate the ability to format a variety of office documents;
- Quickly and effectively proofread a variety of business correspondence; and
- Demonstrate the ability to keyboard rapidly and accurately.

Word Processing — Certificate Program

GENERAL EDUCATION REQUIREMENTS:
(3 credits)

Communications (3 credits)

ENG	101	College Composition I	3

MAJOR COURSE REQUIREMENTS
(23 credits)

OST	106	Keyboarding and Formatting I	4
OST	107	Keyboarding and Formatting II	3
OST	121	Business Communications	3
OST	210	Office Systems Management	3
OST	250	Word/Information Processing Applications I	4
OST	251	Word/Information Processing Applications II	3
OST	290	Internship or Elective approved by OST Advisor	3

ADDITIONAL COURSE REQUIREMENTS:
(9 credits)

CIS	136	Desktop Publishing for IBM Compatibles	3
CIS 131, 135, or 137			3
BUS 101, 141, or 204			3

Total Credits Required for Certificate: 35

RECOMMENDED SEQUENCE OF COURSES*

First Semester

OST	106	Keyboarding and Formatting I	4
OST	121	Business Communications	3
ENG	101	College Composition I	3
One of the following:			3
CIS	131	Microcomputers in Business	
CIS	135	Microcomputer Spreadsheets	
CIS	137	Microcomputer Databases	

Second Semester

OST	107	Keyboarding and Formatting II	3
OST	250	Word/Information Processing Applications I	4
CIS	136	Desktop Publishing for IBM Compatibles	3
One of the following:			3
BUS	101	Business Organization & Management	
BUS	141	Business Mathematics	
BUS	204	Intro. to Organizational Behavior in Business	

Third Semester

OST	251	Word/Information Processing Applications II	3
OST	210	Office Systems Management	3
OST	290	Internship or Elective approved by OST Advisor	3

***NOTE**: This plan assumes the completion of all required developmental courses in reading, writing, and mathematics as well as other pre- and co-requisites for some of the courses, as listed in the Course Descriptions section of the catalog.

Community & Continuing Education

The College offers a wide range of non-credit and credit courses and programs to help meet the lifelong learning and cultural needs of the community, and enhance advancement opportunities for area professionals. The programs are offered at the main campus, the West Essex Campus, and at sites throughout the county. The programs are offered at conveniently scheduled times — usually in the late afternoons, evenings, and on Saturdays. Courses in career and personal development, computer training, and one-semester certificate programs are designed to enhance the professional, personal, and vocational needs of area residents. Employees can earn Continuing Education Units (CEUs) that document newly acquired or upgraded skills that often lead to new job opportunities. Faculty have a broad range of academic and business backgrounds.

Extension Center Programs

The College offers credit courses and non-credit enrichment courses, workshops, and seminars at a variety of conveniently located sites throughout Essex County. The college's two major extension centers are FOCUS and Ironbound. Multilingual programs offered at these two sites attract a large number of students who wish to learn English. Once enrolled at these sites, whether it be in non-credit or credit courses, students are apprised of other educational opportunities that exist at the main and West Essex campuses. FOCUS and Ironbound operate during the evening, Monday through Friday, and on Saturdays. Their locations are as follows:

FOCUS
Hispanic Center for Community Development
433 Broad Street
Newark, NJ 07102
(973) 624-2528

Ironbound Community Center
422 Lafayette Street
Newark, NJ 07105
(973) 465-0947

The College has also developed service agreements with other community-based organizations, adult schools, civic groups, and agencies.

Current off-site programs include:

Nutley Adult School
30 Franklin Avenue
Nutley, NJ 07110
(973) 667-2525

South Orange/Maplewood Adult School
17 Parker Avenue
Maplewood, NJ 07040
(973) 378-7620

NJ Healthcare Employers District 1199J
Training and Development Fund
9-25 Alling Street
Newark, NJ 07102
(973) 643-1600

Additionally, the College offers classes at senior centers in Irvington, East Orange, Newark, and Orange (The Senior Education Program is also available at the college's main and West Essex campuses). Specific non-credit courses and workshops can be designed and organized through the Community and Continuing Education area if requested by a particular group or agency. The college offers Continuing Education Units (CEUs), a nationally acceptable unit of measurement applicable to non-credit, continuing education courses. A certificate of completion is awarded after successful participation in a CEU certified non-credit course.

Adult Learning Center

The college offers various levels of English as a Second Language (ESL), Adult Basic Education (ABE), and General Education Development (GED) courses at five locations – the main campus, West Essex Campus, Ironbound Community Center, Nutley Adult School, and NJ Healthcare Employers District 1199J Training and Development Fund. The complete program includes academic instruction integrated with the development of computer literacy and workplace skills, with scheduled hours for tutoring. Counseling, and job placement assistance are also essential components of the program. All enrollees are pre-tested and post-tested (after 50 hours of instruction).

Workforce Development Programs:

Corporate Training
Corporate training programs, usually offered at the company site for the convenience of its employees,

are developed by customizing the College's existing credit and non-credit courses to meet a company's specific training needs. Training can range from a one-day workshop or seminar to a year-long program leading to state certification. The College responds rapidly to training requests, beginning with an analysis or assessment of training needs. The College works closely with state and local employment agencies to secure grants and identify corporate training needs.

Uniform Construction Code (UCC) Technology Certificate Programs

The College offers certificate programs in Building Code Technology, Electrical Code Technology, Fire Code Technology, and Plumbing Code Technology to help individuals meet state-approved licensing requirements of the New Jersey Uniform Construction Code, administered by the Department of Community Affairs. The programs also offer the opportunity for currently licensed code enforcement personnel to upgrade their educational credentials.

Professional Development for Educators

Essex County College is a Professional Development Provider registered with the New Jersey Department of Education. The College offers specific courses for meeting the requirement for New Jersey Standards for Professional Development. These courses enhance knowledge in subject content, and enable classroom professionals to help students achieve the New Jersey Core Curriculum Context Standards.

Training, Inc.

Training Inc., Essex County College's Career Training Institute, provides a wide variety of career services to county residents seeking initial entry, reentry, or upward mobility in the workplace. The program is an integrated mix of credit and non-credit courses that lead to eventual job acquisition. Training, Inc. is part of a network of similar programs across the country. It has been commended by national and regional organizations and agencies for its successful contextual approach to preparing individuals for employment. Its unique approach of teaching job skills and interpersonal skills within a simulated work setting eases the transition into the workforce.

WIB One-Stop Center

Essex County College, in collaboration with the Newark Workforce Investment Board, houses a One-Stop Center on its main campus in Newark. The One-Stop Center serves as a central location for providing a wide range of job training and employment placement services. ECC students, as well as individuals from around the county, are served on a walk-in basis. The Center is staffed by college employees who work closely with counselors assigned to the main campus from the Mayor's Office of Employment and Training and the New Jersey State Employment Services Office.

Community and Cultural Programs

The College provides a broad spectrum of enrichment and recreational activities, public forums, countywide events, and programs in support of youth and the adult community. Cultural events span the arts and reflect the ethnic diversity of Essex County. The College also sponsors major observances during the year to celebrate the rich heritage of the community.

Mary B. Burch Theater

The College's Burch Theater, designed by theater consultant and Broadway designer Ming Cho Lee, is a 440-seat house facing a combination proscenium/thrust stage that is 50 feet deep and 40 feet wide. The stage is equipped with a memory lighting board, a twelve-line counterweight fly system, orchestra shell, sprung dance floor, and a concert-sound system for use with its performing arts programming system. The college presents professional actors, dancers, musicians, and lectures at the theater as part of its mission to educate the student body and the community. The theater provides a training ground for students enrolled in acting and theater design courses. Co-curricular student productions are produced each year by the Burch Theater.

Youth Programs

The college sponsors various programs for area youth that supplement their schoolwork. The programs provide educational, social, and cultural enrichment while integrating career exploration into all instruction. The purpose is to ensure academic success in primary and secondary schools, and to provide academic enrichment and support activities that ultimately result in high school graduation and pursuit of a higher education degree. The youth programs include: Project GRAD and GEAR UP, administered through the Office of Academic Affairs, and also College Bound Tech, Talent Search, the Saturday Youth Program, and Summer Youth Enrichment Program, administered by the Community and Continuing Education Department.

WISE Women's Center of Essex County College

WISE Women's Center of Essex County College (Women in Support of Essex) serves women and men of the College and the Essex County community-at-large.

The focus of the Center is to assist participants with academic, career, economic, and personal development issues. Recruitment and retention are at the foundation of WISE's work with students. WISE provides support and assistance to those who want to seek new skills, broaden their knowledge, explore values, interests, and strengths.

The primary goal of the Women's Center is to enhance the quality of life for women and their families and ultimately to contribute to the larger community. Workshops, training, and short-term courses on relevant issues are offered on a weekly basis.

The Center provides recruitment and retention counseling, referrals, and other resources through the following programs and services:

- Computer Skills Training
- Displaced Homemakers Program
- Division of Youth and Family Services Parenting Skills Training
- Domestic/Relationship Violence Training
- Employment Clinic
- Entrepreneurship Training
- Entry/Re-Entry Women
- Information and Resource Center
- Life Skills/Career Development Program
- Non-Credit Classes
- Non-Traditional Training
- Parenting Skills Training
- Referrals
- Self Employment Assistance (SEA) Training
- Senator Lipman Saturday Seminars for Women/ Minority-Owned Small Business Enterprises
- Special Events
- Support Groups
- Truancy Alternative Program (TAP)
- Urban Women Program
- YouthBuild ECC Training Program

Police Academy

On December 31, 1998, Essex County College purchased the Essex County Police Academy and assumed full responsibility for all course offerings at the Academy. The Police Academy is located at 250 Grove Avenue, Cedar Grove, New Jersey 07009.

The Police Academy is certified by the New Jersey Police Training Commission to offer courses that include, but are not limited to the following:

- Basic Course for Police Officers
- Basic Course for County Correction Officers
- Basic Course for Juvenile Detention Officers
- Basic Course for Special Law Enforcement Officers Class One
- Basic Course for Special Law Enforcement Officers Class Two
- Basic Firearms Course
- Firearms Instructor Course
- Methods of Instruction Course
- Sub Gun Instructors Course
- School Resource Officer Course
- RADAR Instructors Course
- RADAR Operators Course
- Emergency Medical Technician
- Modified Basic Courses for Veteran County Correction Officers

The Academy also offers an alternate route program under which tuition-paying students can qualify to enroll in the Basic Police Training course and thereafter seek employment with any police force in the state.

The Academy offers the following preventative/remedial/career development courses on our Doran 450 Law Enforcement Driving Simulator:

- Emergency and Vehicle Operations
- Driving Simulator: Train the Trainer

Additionally, the Firearms Training Center is available during the day and many evenings for law enforcement agency semi-annual requalifications as proscribed by the New Jersey Attorney General's Guidelines.

The Academy's Computer Lab hosts basic and advanced courses in:

- Word
- Excel
- PowerPoint
- Access
- Outlook

Our course catalog and additional information is available on our website at: www.essex.edu/pacademy.

COURSE DESCRIPTIONS

0-099	100-199	200-299
Courses with these numbers may be required for students as a result of testing.	Courses with these numbers are considered freshman year courses.	Courses with these numbers are considered sophomore year courses.

Order of Courses:

The courses are grouped under subject headings that are arranged in alphabetical order. For example, Massage Therapy courses that go by the designation HSC can be found under Massage Therapy and Uniform Fire Code courses that go by the designation FSC can be found under Uniform Fire Code. In most instances, however, there is a similarity between the subject heading and the course designation. For example, under Accounting you will find the courses that go by the designation ACC, under Biology you will find the courses that go by the des - ignation BIO, etc. Cooperative Education courses go by the designation CEE.

Accounting

ACC 101 PRINCIPLES OF ACCOUNTING I 4 Credits
FINANCIAL

This course introduces the principles of financial accounting while covering the accounting cycle for service and merchandise companies. Emphasis is on analyzing transactions, summarizing through use of the general ledger, and reporting the results through the preparation of financial statements for use by internal and external decision makers such as stockholders, trade creditors, banks, unions, and governmental agencies. The fundamentals of accounting for inventories, receivables, plant assets, long-term liabilities, internal control, and owners' equity for proprietorship and corporate entities are stressed. Students are introduced to computerized accounting applications. Prerequisite: "C" or better in MTH 086.

ACC 102 PRINCIPLES OF ACCOUNTING II 4 Credits
MANAGERIAL

This course examines the fundamental managerial accounting concepts and techniques that aid in management decision-making, performance evaluation, and in planning and controlling operations. Emphasis is on the use of accounting data as a management tool rather than on the techniques of data accumulation. The course deals with such topics as corporate equity, cost behavior patterns, budgeting, cost-volume profit relationships, product costing methods, preparation of Statement of Cash Flows, and financial statement analysis. Quantitative methods applicable to managerial accounting are studied, including the use of accounting software applications. Prerequisite: "C" or better in ACC 101.

ACC 232 COMPUTERIZED ACCOUNTING 4 Credits

This course covers small business accounting using Peachtree software and QuickBooks software. Topics include creating a chart of accounts, recording customer and vendor transactions, processing payroll, and printing reports. In addition, setting up a new company is covered as well as advanced topics such as exporting Excel software and using QuickBooks audit trail. Emphasis is given on how such systems safequard the assets of the firm to insure the integrity of the reporting system. Special journal entries and subsidiary ledgers are covered. Significant out-of-class independent computer laboratory time is required of all students. Prerequisite: ACC 101. Laboratory fee.

ACC 201 INTERMEDIATE ACCOUNTING I 4 Credits

This course provides an expanded treatment of the theory and accounting principles underlying the preparation of financial statements, and the proper uses that can be made of financial data. Current asset analysis and valuation methodology, current liabilities, and revenue determination procedures are studied in relation to FASB accounting requirements. A comprehensive review of fundamental accounting processes using microcomputer software is included. Prerequisite: "C" or better in ACC 102.

ACC 202 INTERMEDIATE ACCOUNTING II 4 Credits

This course is a continuation of ACC 201. Accounting for long-lived assets, long-term liabilities, investments in securities and funds, and stockholders' equity are emphasized. The more complex aspects of financial statement presentation and analysis are also covered. Prerequisite: "C" or better in ACC 201.

ACC 211 COST ACCOUNTING 4 Credits

This course examines in depth cost analysis and product costing for both the profit and not-for-profit sectors of the economy. Accounting for labor, materials, and manufacturing overhead emphasizes the use of source documents to analyze and record cost data in both manual and com-

puterized accounting systems. Methods of allocating indirect costs to products are introduced. Budgeting concepts are reviewed with emphasis on capital budget techniques. Reporting for segments and decentralized operations are also covered. Prerequisite: "C" or better in ACC 102.

ACC 231 FEDERAL TAXATION 4 Credits

This course introduces the fundamental accounting procedures for determining tax liabilities for individuals and single-owner businesses. The accurate completion of Form 1040 with the accompanying schedules in compliance with the Internal Revenue Code is emphasized using both manual and computerized systems. The calculation of payroll taxes and maintenance of tax records and other selected tax reports are also studied. Prerequisite: "C" or better in ACC 102.

Anthropology

ANT 101 CULTURAL ANTHROPOLOGY 3 Credits

This course examines the behavior and customs of all human groups. It describes human universals, as well as how and why human societies differ, drawing on fieldwork performed in a wide variety of tribal, village, and urban societies. Topics covered include kinship and other social systems; the supernatural and sacred; language and nonverbal communication; beliefs and behavior regarding health and curing; myth, art, and music. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better), or placement.

ANT 105 PHYSICAL ANTHROPOLOGY AND PRE HISTORY 3 Credits

This course examines the origin and emergence of humanity, the early unwritten history of the human race, physical variations among humans, and prehistoric civilizations. Pre-or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

Arabic

ARB 101 ELEMENTARY ARABIC I 3 Credits

This is the first half of a one-year course for students with little or no background in the Arabic language. Listening comprehension, speaking, reading, and writing are developed within the limits of basic vocabulary, idioms and grammar. Pre- or Co-requisites: ENG 096 and RDG 096, or ESL 103 and ESL 104 (passing grade of "C" or better for each), or placement.

ARB 102 ELEMENTARY ARABIC II 3 Credits

This is a continuation of ARB 101. The student's knowledge of vocabulary and grammar expands to include multiple tenses and uses of the verb. The four language skills (listening comprehension, speaking, reading, and writing) continue to be developed. Prerequisite: "C" or better in ARB 101 or placement.

Architecture

ARC 101 ARCHITECTURAL DESIGN I 4 Credits

This course is an introduction to architectural design with emphasis on basic design content, including the logical arrangement of elements in space. A series of projects are assigned and reviewed for format, presentation, and completeness. Prerequisite: "C" or better in MTH 092 or placement. Laboratory fee.

ARC 102 ARCHITECTURAL DESIGN II 4 Credits

This course is a continuation of ARC 101. Assigned projects include three-dimensional representations. Students learn how to construct perspectives and build architectural models. Prerequisite: "C" or better in ARC 101. Laboratory fee.

ARC 111 HISTORY OF ARCHITECTURE I 3 Credits

This is a course in the history of architecture, beginning with ancient Egyptian architecture and ending with the Industrial Revolution era architecture of the eighteenth century. Major emphasis is placed on historical periods such as Byzantine, Romanesque, Gothic, Renaissance, and Baroque. Particular works of classical architects are also studied. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

ARC 112 HISTORY OF ARCHITECTURE II 3 Credits

This is a course on historical developments in architecture from the nineteenth century to the present post-modern era. Major emphasis is placed on architectural movements in Europe, namely the Beaux-Arts and Art Nouveau in France, the Arts and Crafts in England, the Bauhaus in Germany, and also the international style of architecture in both hemispheres. Works of noted architects are given special review. Prerequisite: "C" or better in ARC 111.

ARC 131 CONSTRUCTION METHODS I 3 Credits

This course introduces the concepts of building construction principles and processes including foundations, walls, floors, and roof systems. Materials considered are wood, masonry, steel, and concrete. Also discussed are site preparation and building code requirements. Prerequisite: "C" or better in MTH 113.

ARC 132 CONSTRUCTION METHODS II 3 Credits

This course is a continuation of ARC 131 and focuses on the details of buildings including windows, doors, and specialty construction such as stairs. Also discussed are thermal and moisture protection, finishing, and electrical and plumbing systems. Prerequisite: "C" or better in ARC 131.

ARC 201 ARCHITECTURAL DESIGN III 4 Credits

This is the third course in the architectural design sequence. Projects involve researching and analyzing programmatic requirements of a design problem. Students generate multiple design solutions and present them using graphic methods appropriate to the solution. Prerequisite: "C" or better in ARC 102. Laboratory fee.

ARC 202 ARCHITECTURAL DESIGN IV 4 Credits

This is a design drawing workshop where the student selects an architectural problem and develops the solution by investigating design, structure, costs, and environment. The student then presents his/her solution through two and three-dimensional drawings. Prerequisite: "C" or better in ARC 201. Laboratory fee.

Art

ART 100 ART APPRECIATION 3 Credits

This is an introductory course designed to acquaint the student with the greatest achievements of painting, sculpture, and architecture for a richer understanding and appreciation of art in daily life as well as in the cultures of the world. This course is for non-art majors only.

ART 101 ART HISTORY I 3 Credits

This course is a study of the historical contributions in painting, sculpture, architecture, and the minor arts of all cultures from prehistoric times up to the year 1400. Pre- or Co-requisite: ENG 101 (passing grade of "C" or better.)

ART 102 ART HISTORY II 3 Credits

This course is an historical study of world painting, sculpture, architecture, and the minor arts from 1400 to the present. Cultures from throughout the entire world are covered, as are the contributions of women to the arts. Note: ART 102 can substitute for the ART 100 or ART 101 core Humanities requirement.

ART 103 FUNDAMENTALS OF ART I 3 Credits

This is the first of two design courses dealing with problems involving the use of shape, line, texture, space, and color (the elements of design) in accordance with the principles of design. Students are introduced to various media in solving the design problems posed.

ART 104 FUNDAMENTALS OF ART II 3 Credits

This course is the second half of ART 103, with a particular emphasis on color theory. Special projects in color and design are done according to individual student interest in consultation with the instructor. Prerequisite: ART 103.

ART 107 DRAWING I 3 Credits

This course is an introduction to drawing techniques, materials, and philosophies with emphasis on the development of observational skills and order and clarity of form in graphic terms. Laboratory fee.

ART 108 LIFE DRAWING 3 Credits

This course features both fundamental and advanced drawing study from life. It uses the skeleton, live models, and a variety of drawing media for both long and short action poses. Basic anatomy and proportion are emphasized. Prerequisite: ART 107.

ART 110 SCULPTURE 3 Credits

This course is an introduction to the three-dimensional fine art medium of sculpture. Its focus is mainly on additive and subtractive media in sculpting, especially the use of clay.

ART 111 FUNDAMENTALS OF PAINTING 3 Credits

This course is a studio exploration of various painting techniques, media, and materials, including the preparation of canvasses.

ART 119 MUSEUMS AND GALLERIES 3 Credits

This course is about how looking can be interesting when it is accompanied by thinking and knowing. Students visit New Jersey's and New York's famous museums and galleries with the instructor. Participants develop sensitivity to the actual work of art so that they can increase their knowledge and enjoyment of the art world. Students pay individual admission to the museums, where required.

ART 140 PHOTOGRAPHY 3 Credits

This course is an introduction to black and white photography. It provides students experience with a 35mm camera and basic darkroom equipment. Topics and assignments covered include photograph composition, film development, enlarging, and photo printing. NOTE: a 35mm camera is required.

ART 160 ELECTRONIC MECHANICALS/ PRE-PRESS PRODUCTION 3 Credits

This is a course in the basic methods and applications of the computer to previously utilized manual paste up and mechanical production now used in digital graphic design, publishing, and advertising art. The course places empha-

sis upon the student developing a demonstrated proficiency in a number of pre-press procedures, techniques, and applications for making published documents using desktop publishing computer skills. Scanning, digital photography editing techniques, color publication production, and the special use of typography are covered. Laboratory fee.

ART 161 COMPUTER ENHANCED LAYOUT AND DESIGN 3 Credits

The course focuses upon the elements and principles of design with the computer as the major production tool. Line, shape, color, textures, space, light, balance, rhythm, unity, harmony, emphasis, and contrast are applied to the digitally produced documents, presentations, video, Web page designs, and advertisements. Design elements and principles, conceptualization of ideas, and the use of digitally created effects are all featured. Laboratory fee.

ART 163 DIGITAL VIDEO GRAPHIC DESIGN 3 Credits

This course emphasizes the artistic production of hard copy, film, slides, video, and animation created by digital photography, digital video imaging, scanning, and desktop editing techniques. Design elements and principles are combined with computer skills to produce portfolio and production video clips necessary for employment placement or advanced study in the computer graphics field. Prerequisite: ART 161, ART 167, or ART 168.

ART 167 INTRODUCTION TO COMPUTER ART 3 Credits

This introductory course covers the basics of computer graphic applications for design, commercial reproduction of art work, mechanicals, comprehensives, and the use of the computer as a graphic design tool. Scanning line art, copy, half tones, modifying half tones, and techniques for graphic design using the computer are emphasized. The student makes a part of his/her portfolio a multiplicity of design and camera-ready projects, transparencies, four color art, and multilevel drawings. Laboratory fee.

ART 168 DESKTOP PUBLISHING/ PRESENTATION GRAPHICS 3 Credits

This is an introductory course focusing on the fundamental theories, practices, and computer applications of presentation graphics. The course places a major emphasis upon computer-generated graphics including project schedules, spreadsheets, financial data, brochures, flyers, effective communications, slides, transparencies, animation, and page design. Prerequisite: Familiarization with keyboarding or permission of instructor. Laboratory fee.

ART 169 ADVANCED COMPUTER GRAPHICS 3 Credits

This course focuses on the continued development of individual design skills using the elements and the principles of design while enhancing individual computer proficiency. Students perfect their ability to creatively use Adobe Photoshop, Adobe Illustrator, Quark Xpress, and other design software to produce original graphic design for print and Web-based media. Instruction is given on Windows or MacIntosh. Prerequisites: ART 167 or ART 168 or portfolio with demonstrated proficiencies, and keyboarding at an acceptable number of words per minute. Laboratory fee.

ART 170 BASIC WEB PAGE DESIGN 3 Credits

This course prepares the novice Web designer for the complex task of Web page design. The course focuses on learning the essential elements and principles of design and applying them to page layout, design of text, and graphics for the Web. Topics covered include simple graphics and links, navigational controls, the basics of HTML, as well as planning cognitive content and artistic effects that would be dynamic in the global marketplace of the World Wide Web. Students are required to create three Web sites: personal, business and educational. Prerequisites: ART 167 or ART 168 or portfolio with demonstrated proficiencies, and keyboarding proficiency. Laboratory fee.

ART 171 CYBERSPACE GRAPHICS AND BEGINNING ANIMATION 3 Credits

Using the elements and the principles of design, this course instructs the student in the principles of creating and preparing GIFs (Graphic Interface Formats) and basic animation for the World Wide Web. Students learn about the two basic graphic types (bit maps and vectors), graphic formats supported by popular software programs, and those used for graphic design on the Web. A variety of software programs for both platforms (Windows and MacIntosh) are used. Prerequisite: ART 167 or ART 169 or ART 170 or portfolio with demonstrated proficiencies. Laboratory fee.

ART 200 THE ART OF THE AFRICAN-AMERICAN 3 Credits

This course is an introduction to and exploration of works and styles of African-American artists with special attention given to values expressed in their art. The course also includes artistic ideas generated by the African diaspora. NOTE: This course can substitute for the ART 100 or ART 101 core Humanities requirement.

ART 205 TWO-DIMENSIONAL DESIGN 3 Credits

This course continues the emphasis on the elements and principles of design found in ART 103 and 104. It assigns students design projects in the fine, commercial, and applied arts. Prerequisite: ART 103.

ART 206 THREE-DIMENSIONAL DESIGN 3 Credits

This course extends the application of the elements and

principles of design into an examination of the three-dimensional aspects of design. Functional as well as aesthetic utilization of space and manipulative skills with tools, new materials, and subjects are emphasized.

Astronomy

PHY 113 ASTRONOMY **4 Credits**

The basic concepts of astronomy will be introduced to provide a good understanding of the structure, motion, and evolution of our universe. Students will be taken on a historical path, through description of the Ptolematic, Brahe, and Kepler models, to the present day conception of the universe. Students will also gain understanding of the nature of light, atomic structure, gravitation, and relativity. Prerequisite: Placement or grade of "C" or better in MTH 092. Laboratory fee.

Biology

BIO 100 FOUNDATIONS OF BIOLOGY (Science Majors) **4 Credits**

This is a laboratory science course for students who plan to continue into medical, biological, or related sciences. This course provides background for the student who has never studied biology, or who is "rusty," to succeed in more advanced biology courses including BIO 103 and BIO 121. It is also a helpful science preparation for chemistry, pharmacology, and nursing requirements. Lecture includes anatomical terminology, systems, both organic and inorganic body chemistry, cells and cell membranes, DNA replication and transcription, and tissues. Laboratory introduces measuring instruments and metric system, microscope, and dissection techniques. BIO 100 will not fulfill any part of the science requirement toward graduation for either science majors or non-science majors. Pre- or Co-requisites: ENG 096 and RDG 096 or ESL 105/106, or placement. Laboratory fee.

BIO 101 COLLEGE BIOLOGY I (Non-Science Majors) **4 Credits**

This course is designed to develop, from a conceptual approach, meaningful understanding of some fundamental principles of the living world. Particular emphasis is placed on the unity and diversity of life forms and their relationship to each other and to their environment. This course can be taken to satisfy the science requirement of a non-science major, and can be taken independent of, before, or after BIO 102. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Laboratory fee.

BIO 102 COLLEGE BIOLOGY II (Non-Science Majors) **4 Credits**

Using a conceptual approach, this course places emphasis on human biology and human ecology. Basic principles concerning the structure and function of human body systems in both health and disease conditions are studied. This course can be taken to satisfy the science requirements for non-science majors, and can be taken independent of, before, or after BIO 101. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Laboratory fee.

BIO 103 GENERAL BIOLOGY I (Biology Majors Only) **4 Credits**

This course explores the basic principles which govern the behavior of living matter on the molecular and cellular level. Topics covered include: characteristics of important biological macromolecules, cell metabolism and energetics, cell structure, cell division, and fundamentals of modern genetics. Pre requisites: MTH 092, ENG 096, RDG 096 or ESL 105/106 (passing grade of "C" or better for each or placement). High school biology or BIO 100 strongly recommended. MTH 100 strongly recommended. Laboratory fee.

BIO 104 GENERAL BIOLOGY II (Biology Majors Only) **4 Credits**

A continuation of BIO 103, this course covers nucleic acid and protein synthesis, evolution, and organization of cells into tissues, organs, and organ systems. Prerequisites: "C" or better in BIO 103 and MTH 100 or higher. Laboratory fee.

BIO 117 FUNDAMENTALS OF ANATOMY AND PHYSIOLOGY I **4 Credits**

This is a course in basic anatomy and physiology. Lecture topics include: basic science fundamental to the understanding of the body's structure and function, the cell, tissues, water compartments, skeletal system, muscular system, and nervous system. Prerequisites: MTH 092, ENG 096, and RDG 096 or ESL 105/106 (passing grade of "C" or better for each or placement). High school biology or BIO 100 strongly recommended. Laboratory fee.

BIO 118 FUNDAMENTALS OF ANATOMY AND PHYSIOLOGY II **4 Credits**

This course in basic anatomy and physiology includes the following lecture topics: the respiratory system, digestive system, metabolism and nutrition, the urinary system, and the lymphatic, cardiovascular, and reproductive systems. Prerequisite: "C" or better in BIO 117. Laboratory fee.

BIO 121 ANATOMY AND PHYSIOLOGY I **4 Credits**

This course on human anatomy and physiology covers integration and regulation of physiological processes with emphasis on the structural and functional interrelationships. Lecture topics include: chemical and physical constituents of living material; cell structure and function; tissues, their arrangements and their contributions to sys-

temic function; development and functions of the skeletal system; muscle anatomy and physiology; and the nervous system. The laboratory work serves to enhance the lectures through detailed discussions, hands-on examination of specimens, and problem solving. Prerequisites: MTH 092, ENG 096, RDG 096, or ESL 105/106 (passing grade of "C" or better for each or placement), High school biology or BIO 100 are strongly recommended. Laboratory fee.

BIO 122 ANATOMY AND PHYSIOLOGY II 4 Credits

This course builds on Anatomy and Physiology I. Lecture topics include: structure and function of the special sense organs, circulatory system, respiratory system, and digestive system, basic concepts of metabolism, excretory system, water and salt metabolism, and endocrine and reproductive systems. The laboratory experience serves to enhance the topics covered in lectures. Prerequisite: "C" or better in BIO 121. Laboratory fee.

BIO 125 ANATOMY AND PHYSIOLOGY OF THE EYE 3 Credits
(Ophthalmic Dispensing Program Majors Only)

This course starts with a basic overview of human anatomy and physiology and then focuses on the anatomy and physiology of the eye. Emphasis is placed on embryological development of the eye, the normal structure and function of ocular tissues, and their interrelationships with other systems. Consideration is given to anatomical abnormalities and the pathophysiology of the visual system. Laboratory work includes dissection of an eye. Laboratory fee.

BIO 211 MICROBIOLOGY 4 Credits

Microbiology is the study of microorganisms. Topics covered include: eucaryotic cells, protozoans and fungi, procaryotic cells, bacteria, rickettsiae and mycoplasmas, and viruses. Lectures and laboratory sessions consider techniques in culturing, studying, and identifying microorganisms. Also covered are nutritional and environmental needs, biochemical activity, genetic makeup and expression, and the interrelations between microorganisms and human or animal hosts during health and disease. Additional topics are pathogenicity, virulence, immunology, natural defense, and environmental control factors. Prerequisites: "C" or better in CHM 101 or CHM 103 and also in BIO 104 or BIO 122. Laboratory fee.

BIO 220 INTRODUCTION TO ENVIRONMENTAL SCIENCE 4 Credits

BIO 220 is the study of humans and their interactions with the environment. Topics include fundamental aquatic and terrestrial ecology, air and water pollution, and world population problems and their solutions. Laboratory sessions include measurements of various environmental pollutants, fundamental lab exercises in ecology, analysis of environmental parameters, and descriptive and practical reinforcement of lecture material. Prerequisite: "C" or better in BIO 103. Pre- or Co-requisite: BIO 104. Laboratory fee.

BIO 222 KINESIOLOGY 4 Credits
(Physical Therapy Assistant Majors Only)

The principles of force and leverage are emphasized in this course. The kinematics and kinetics of human movement are also covered. The course will include aspects of the skeletal, muscular, and nervous systems as they apply to human movement. Goniometry, ROM, and lever systems are revisited in the laboratory. These above principles are discussed in the context of practical application by a Physical Therapist Assistant. Prerequisites: "C" or better in BIO 121, PTA 101, and PTA 102. Co-requisites: PTA 201, PTA 203, and PTA 209. Laboratory fee.

BIO 228 MOLECULAR BIOLOGY 4 Credits

BIO 228 is a study of the fundamental principles that guide cellular and molecular organization and function. Topics include membranes and cell signaling, the cytoskeleton and cell motility, the cell cycle, and regulation of gene expression. Laboratory sessions include the measurement of toxic effects of various chemicals on membrane integrity, practical applications of biotechnology to everyday problems, and the use of recombinant DNA technology to perform an authentic cloning experiment.
* This course has also been approved as an elective for Biology/Pre-Med majors (0601). Prerequisite: "C" or better in BIO 103. Pre- or Co-requisite: BIO 104. Laboratory fee.

BIO 237 GENETICS WITH LABORATORY 4 Credits

This is an introductory course in genetics for biology majors. The course follows a lecture/laboratory format to cover traditional topics in transmission genetics (Mendelian and Non-Mendelian), gene mapping, molecular genetics, organization of viral, prokaryotic, and eukaryotic genes, regulation of gene expression, recombinant DNA technology, and population genetics. The laboratory component introduces students to techniques and instrumentation that are used to manipulate and to investigate the structure, function, and transmission of inheritable information. Pre- or Co-requisite: BIO 104. Laboratory fee.

BIO 241 PATHOPHYSIOLOGY 3 Credits

This course emphasizes disease mechanisms, the various responses of the body to restore homeostasis, and the effect of these responses on normal function. Pathogenesis is viewed at the molecular, cellular, tissue, and systemic levels and correlated with signs and symptoms. Diagnostic procedures and the rationale for treatment modalities are covered for model diseases. Prerequisite: "C" or better in BIO 104 or BIO 122.

BIO 251 PHARMACOLOGY FOR HEALTH PROFESSIONALS **3 Credits**

This is an introductory course in pharmacology. Students utilize the physical and social sciences as a framework for developing an understanding of drug action and usage. Selected classifications and families of drugs are introduced. The names, indications, mechanisms, dosage range, side effects, and adverse effects of individual drugs are discussed. The format of the course is lecture, discussion, and case presentation. Prerequisite: "C" or better in BIO 121 or BIO 103. Pre-requisite: "C" or better in BIO 104 or BIO 122.

Biotechnology

BIO 228 MOLECULAR BIOLOGY **4 Credits**

BIO 228 is a study of the fundamental principles that guide cellular and molecular organization and function. Topics include membranes and cell signaling, the cytoskeleton and cell motility, the cell cycle, and regulation of gene expression. Laboratory sessions include the measurement of toxic effects of various chemicals on membrane integrity, practical applications of biotechnology to everyday problems, and the use of recombinant DNA technology to perform an authentic cloning experiment.
* This course has also been approved as an elective for Biology/Pre-Med majors (0601). Prerequisite: "C" or better in BIO 103. Pre- or Co-requisite: BIO 104. Laboratory fee.

BIO 229 BIOTECHNOLOGY LABORATORY **4 Credits**

BIO 229 is a study of the basic laboratory methods needed for employment in the Biotechnology industry. Students will learn the foundations of scientific method, basic lab safety and lab documentation, and maintenance and calibration of basic laboratory equipment. Laboratory sessions will include measurement and separation utilizing centrifugation, chromatography, electrophoresis, spectrophotometry, and Polymerase Chain Reaction. Prerequisite: "C" or better in BIO 103. Pre- or Co-requisite: BIO 104. Laboratory fee.

BIO 230 BIOTECHNOLOGY INTERNSHIP **4 Credits**

BIO 230 is a work experience program where students are employed in a technical position in an industrial, government, academic, or organizational laboratory for the purpose of gaining practical experience in Biotechnology. Supervision of this departmentally approved position is provided by the college through on-the-job visits and individual progress review sessions. Students attend a weekly one hour seminar on campus and work a minimum of 180 hours per semester. Individuals must be recommended by the faculty of the Division of Biology and Chemistry, approved by the Chair of the Division, and, where necessary, registered with the Department of Cooperative Education.

BIO 237 GENETICS WITH LABORATORY **4 Credits**

This is an introductory course in Genetics for biology majors. The course follows a lecture/laboratory format to cover traditional topics in transmission genetics (Mendelian and Non-Mendelian), gene mapping, molecular genetics, organization of viral, prokaryotic and eukaryotic genes, regulation of gene expression, recombinant DNA technology, and population genetics. The laboratory component introduces students to techniques and instrumentation that are used to manipulate and to investigate the structure, function, and transmission of inheritable information. Prerequisite: "C" or better in BIO 103. Pre- or Co-requisite: BIO 104. Laboratory fee.

Business Administration

BUS 100 BUSINESS WORKSHOP **3 Credits**

This course offers an introduction to contemporary business principles and practices, raises economic awareness, and also reinforces study skills. Topics that are covered include business career opportunities, successes in business, reading comprehension, writing about business subjects, listening and taking notes, vocabulary development, and improvement of the student's learning processes. Prerequisite: "C" or better in ENG 086/087.

BUS 101 BUSINESS ORGANIZATION AND MANAGEMENT **3 Credits**

This course offers a concise overview of the world of business. Emphasis is placed on the following topics: ownership, risk, production, finance and the financial system, marketing, human resources, and the effect of government on business. Pre- or Co-requisites: ENG 096/097 and RDG 096/097 (passing grade of "C" or better for each), or placement

BUS 141 BUSINESS MATHEMATICS **3 Credits**

Emphasis is on the application of fundamental mathematic principles to business: ratio and proration, percentage, discounts, interest, graphs and measurements. Prerequisite: "C" or better in MTH 092/093.

BUS 201 PRINCIPLES OF MANAGEMENT **3 Credits**

This course offers an introduction to the major functions of management: planning, staffing, organizing, controlling, direction, and financing. The technical tools of management are considered in relation to their social and psychological implications in management decision making. Prerequisite: "C" or better in BUS 101.

BUS 204 INTRODUCTION TO ORGANIZATIONAL BEHAVIOR IN BUSINESS **3 Credits**

This course traces the foundation and development of behavioral science as applied to business, and analyses organizational and human needs. Topics emphasized include: organizational design and development, formal and informal work groups, communication and group processes, motivation theory, leadership, and the relationship between the work environment and the community and the urban setting. The course includes a review of selected behavioral research findings. Prerequisite: "C" or better in BUS 201.

BUS 207 LEADERSHIP AND SUPERVISION IN ORGANIZATIONS **3 Credits**

This course offers students the opportunity to learn about leadership and supervision in modern organizations. Students are introduced to a variety of behavioral and managerial leadership theories and research findings including the Ohio Studies, participative leadership, and charismatic leadership. Case studies, experiential exercises, and print and electronic media are used to enhance classroom discussion. Prerequisite: "C" or better in BUS 201.

BUS 211 PRINCIPLES OF MARKETING **3 Credits**

This course examines those business activities that are paramount in affecting the sale and distribution of goods and services. Consideration is given to market research and analysis, the place of the consumer in our economic system, and the functions of retailing and wholesaling. Prerequisite: "C" or better in BUS 101.

BUS 212 PRINCIPLES OF RETAILING **3 Credits**

This course deals with the organization of retail stores with emphasis placed on management and merchandising policies, the world of fashion, color, design, textiles, and non-textiles. Planning and control are studied, particularly the use of pricing techniques, gross margin, markup and markdown, discounts, inventories, and open to buy. Constant reference is made to the economic and social forces which affect retail distribution. Prerequisite: "C" or better in BUS 211.

BUS 213 PRINCIPLES OF SELLING **3 Credits**

Students study the techniques of successful selling. Topics covered include: the location and selection of prospects, the approach, the sales presentation, meeting objectives, and closing the sale. These techniques are applied through student sales presentations and use of videotape evaluations. Prerequisite: "C" or better in BUS 211.

BUS 215 ADVERTISING PRINCIPLES **3 Credits**

Advertising and other promotional methods are studied from the perspective of communication with the market. Topics covered include advertising's place in the marketing mix, media selection, advertising research and production, and sales promotional strategies. Student creativity is encouraged and developed. Prerequisite: "C" or better in BUS 211.

BUS 221 HUMAN RESOURCE MANAGEMENT **3 Credits**

This course focuses on the background and operating concepts underlying the management of human resources in business and public organizations. It examines the critical issues in human resources including employment, wage and salary administration, training and development, employee and labor relations, and accident prevention. Emphasis is placed on the findings of the behavioral sciences as applied to personnel administration. Prerequisite: "C" or better in BUS 201.

BUS 231 GLOBAL BUSINESS **3 Credits**

This course is an introduction to the theory and practice of international business. Topics covered include global organization, principles of international trade, international management, marketing, finance, foreign exchange, balance of payments, trade deficits, free trade agreements, NAFTA, GATT, trade barriers, international investment, U.S. International Trade Zones, European Union, and the global environment of business. Prerequisite: "C" or better in BUS 201.

BUS 251 BUSINESS LAW I **3 Credits**

This course provides an introduction to the principles, rules, and scope of business law. Topics covered include sources of law, contracts, and the law of sales under the Uniform Commercial Code. Major antitrust, administrative, and environmental laws are reviewed. Current issues in consumer affairs and legal challenges are discussed. Prerequisite: "C" or better in BUS 101.

BUS 252 BUSINESS LAW II **3 Credits**

This course further explores legal topics governing business operations including agency, personal property and bailments, negotiable instruments, corporations, and partnerships. The Uniform Commercial Code is referenced, as are other relative sources of law. Prerequisite: "C" or better in BUS 251.

BUS 253 THE LEGAL, ETHICAL, AND GLOBAL ENVIRONMENT OF BUSINESS **3 Credits**

This course focuses on the interrelationship of social policies, the legal system, and global business practices in society, with emphasis on the rapidly changing business and legal environments. Relationships among governmental, ethical, social, and business interests will also be examined. The course will provide students with a comprehensive legal foundation to enable them to understand the impact of law on business decisions. Prerequisite: Grade of "C" or better in BUS 101.

Chemistry

CHM 100 INTRODUCTION TO CHEMISTRY 4 Credits

A broad survey of the basic principles of chemistry is provided with a laboratory section for non-science, pre-science, and allied health students. Pre- or Co-requisites: ENG 096, RDG 096, and MTH 092 (passing grade of "C" or better for each), or placement. Laboratory fee.

CHM 101 COLLEGE CHEMISTRY I 4 Credits

This course covers the major concepts of general chemistry which includes states and properties of matter, atomic structure, mole concept and stoichiometry, solutions, acid base chemistry, equilibrium, and kinetics with laboratory sessions. This course is designed to provide appropriate chemistry background for nursing and health science students. Prerequisites: ENG 096, RDG 096 or ESL 105/106, and MTH 092 or higher (passing grade of "C" or better for each or placement). High school chemistry strongly recommended. Laboratory fee.

CHM 102 COLLEGE CHEMISTRY II 4 Credits

This course is an introduction to organic and biological chemistry for students preparing for careers in health care. Course content includes hydrocarbons, alcohols, carbohydrates, amines, lipids, amino acids and proteins, enzymes, biochemical energy transfer, metabolism, and nutrition. The course is taught via lecture and laboratory sessions. Prerequisite: "C" or better in CHM 101. Laboratory fee.

CHM 103 GENERAL CHEMISTRY I 4 Credits

This is a transfer course in chemistry for chemistry, biology, pre-med, and engineering students. Principles and concepts of stoichiometry, thermochemistry, ionic and molecular equilibria, and kinetics are covered. Also included is a brief introduction to organic nomenclature. Emphasis is on problem solving. Laboratory work is coordinated with lectures and numerous problem-solving sessions. Prerequisites: ENG 096, RDG 096 or ESL 105/106, and MTH 092 (passing grade of "C" or better for each or placement). High school chemistry or CHM 100 strongly recommended. MTH 100 strongly recommended. Laboratory fee.

CHM 104 GENERAL CHEMISTRY II 4 Credits

This is a continuation of CHM 103. Atomic theory and bonding, elementary thermodynamics, electrochemistry, and nuclear chemistry are discussed. Theory and practice of ionic equilbria in qualitative analysis are also covered. Laboratory introduces students to theory and practice of semimicroqualitative analysis. Prerequisite: "C" or better in CHM 103. Laboratory fee.

CHM 107 TECHNICAL CHEMISTRY I 3 Credits (TTP Program Majors Only)

This course offers an introduction to the science of chemistry. It covers major concepts in chemistry, with emphasis placed on inorganic chemistry. Topics covered include atomic structure, periodic law, states of matter, acid-based equilibrium, solutions, and oxidation-reduction.

CHM 108 TECHNICAL CHEMISTRY II 3 Credits (TTP Program Majors Only)

Organic chemistry and industrial processes are covered. Prerequisite: "C" or better in CHM 107.

CHM 109 TECHNICAL CHEMISTRY LABORATORY 2 Credits (TTP Program Majors Only)

This is a course in chemical laboratory techniques. Gravimetric and volumetric methods of chemical analysis are emphasized along with preparations, extractions, types of chromatography, and distillation.

CHM 111 CHEMISTRY SEMINAR 3 Credits (TTP Program Majors Only)

Students are introduced to the chemical industry and its impact on society and job opportunities. The course includes tours of chemical plants and labs. Students also receive help in resumé writing.

CHM 112 CHEMICAL CALCULATIONS 3 Credits (TTP Program Majors Only)

This is a practical course on methods of presenting data and performing chemical calculations using logarithms, algebra, graphical methods, and electronic calculators. Typical industrial problems are studied.

CHM 203 ORGANIC CHEMISTRY I 4 Credits

The fundamental synthesis and reactions of various organic molecules and the role these molecules play in our everyday lives are covered. The theory behind the reactions is also covered along with topics such as resonance and mechanisms. The lab includes experiments in polymers, flavoring, dyes, perfumes, analgesics, and food colors where the methods employed in the synthesis and purification of the product are emphasized. Prerequisite: "C" or better in CHM 104. Laboratory fee.

CHM 204 ORGANIC CHEMISTRY II 4 Credits

This is a continuation of CHM 203. The fundamental synthesis and reactions of still other organic molecules are covered. The laboratory includes experiments in chemiluminence, natural products, local anesthetics, sulfa drugs, proteins, carbohydrates, and artificial sweeteners. Prerequisite: "C" or better in CHM 203. Laboratory fee.

CHM 206 INSTRUMENTAL METHODS 4 Credits
(TTP Program Majors Only)

This course covers modern analytical techniques. Emphasis is on spectral methods (infrared, ultraviolet, visible), polarimetry, refractometry, interpretation, and reporting of results.

Cinema

CIN 101 INTRODUCTION TO THE ART OF FILM 3 Credits

This is an introductory course designed to acquaint students with the art of film and to enable them to gain a greater understanding and appreciation of this important medium. The course covers the history of cinema, various cinematic theories and genres, and profiles of the industry's most influential directors. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better), or placement.

CIN 103 HISTORY OF AFRICAN-AMERICAN FILM 3 Credits

This is an introductory course designed to acquaint students with the history of African- American film and to develop in them a greater understanding and appreciation of African-American film history. The course develops chronologically, starting with the inventors and African-American film pioneers and ending with the resurgence of African-American films in the 1980s. Much of the course content is analyses of theories, film facts, and people. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better), or placement.

Civil Construction Engineering Technology

CET 111 CONSTRUCTION METHODS AND MATERIALS 3 Credits

This course is an introduction to construction practices and materials used in construction. Emphasis is placed on the basic materials including concrete, steel, asphalt, masonry, and wood. Portland cement concrete is mixed in the lab and tested for strength. Other topics covered include site preparation and grading, foundations, and framing systems. A research paper is presented orally in class. Pre- or Co-requisite: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

CET 211 SURVEYING I 3 Credits

This is an introductory course that includes the use, care, and adjustment of modern digital surveying instruments, the measurement of distance, and differences in elevation, angles, directions, lines, and grades. Other topics covered include the theory of measurement and errors, traversing, and area computation. Field exercises are included to complement lecture topics. Co-requisite: MTH 114. Laboratory fee.

CET 212 SURVEYING II 3 Credits

This course is a continuation of CET 211 and covers the elements of horizontal, vertical, and compound curves, cross-sectioning, and earthwork computations. Other topics covered include the essentials of boundary surveys, coordinates, control surveys, construction surveys, and state plane coordinates. Field exercises and computer applications are included to complement lecture topics. Prerequisite: "C" or better in CET 211. Laboratory fee.

CET 214 EVIDENCE & PROCEDURES FOR BOUNDARY LOCATION 3 Credits

This course addresses the concept of evidence relating to boundary locations as discoverable on the ground and through deeds or other written records, and the procedures followed by the land surveyor when conflicts occur between those items of evidence by relating laws and cases. Prerequisite: "C" or better in CET 212.

CET 221 HYDRAULICS AND DRAINAGE 4 Credits

This course is an introduction to the fluid properties of water and the concepts of surface water hydrology. Topics covered include flow through pipes and channels and relationships between rainfall and runoff. Class time is divided between the study of theory and the application of this theory in the design of storm drainage systems. Laboratory exercises are included to complement lecture topics. Prerequisite: "C" or better in CET 211. Co-requisite: MTH 114. Laboratory fee.

CET 225 SOIL MECHANICS 3 Credits

This is an introductory course in soil properties and testing techniques. Topics covered include soil classification, index properties, bearing capacity, retaining walls, soil compaction, and pile driving. Emphasis is placed on practical field applications including inspection and testing. Laboratory exercises are included to complement lecture topics. Prerequisite: "C" or better in ENR 110. Laboratory fee.

CET 231 STRUCTURES 4 Credits

This is an introductory course in steel and concrete structural design. Students perform calculations and write specifications for the correct size and physical characteristics of structural components of the simpler forms of structural systems. Design of steel and wood framing members – including bearing plates, base plates, and riveted, bolted, and welded connections – is included. Also

included is the study of reinforced concrete elements such as rectangular beams, T-beams and one and two-way slabs, tied and spiral columns, footings, and foundation walls. Prerequisite: "C" or better in ENR 220.

CET 251 CET SEMINAR 1 Credit

This is a survey course involving a variety of topics relevant to civil engineering, construction, and land surveying. Through group discussion, research, and oral presentation, students gain an appreciation of the skills and techniques needed for success as a professional in their chosen field. Co-requisite: CET 231 or permission.

College Success

CSS 101 COLLEGE SUCCESS SEMINAR 1.5 Credits

This course prepares students for college life by offering critical information and providing an ongoing support system, as needed, throughout the first semester. It emphasizes self-assessment, self-management, the development of life skills, goal-directed behavior, and effective study habits. Co-requisites: ENG 088 and ENG 088T.

Communication

CMS 110 FUNDAMENTALS OF TELEVISION PRODUCTION 3 Credits

This course is designed to teach the basic fundamentals of broadcasting operations. Topics covered include basic production, audio systems equipment and operations, camera operation techniques, lighting and video switching, master control, and studio operations. Also covered are electronic news gathering, electronic field production, and videotape editing. Laboratory fee.

CMS 113 WRITING FOR FILM AND TELEVISION 3 Credits

This course familiarizes students with the basics of writing for film and television. Students are taught to apply industry standard formats in preparing scripts. Topics covered include style, story structure and content, characterization, dialogue, and opportunities for new writers in the industry. Students practice writing in the different styles of film and television shows. Prerequisite: "C" or better in ENG 101.

CMS 121 FUNDAMENTALS OF FILMMAKING 3 Credits

This introductory course is designed to acquaint students with the basic elements of film production. Students are taught the aesthetics and techniques required for producing 8mm film and16mm film. They are also introduced to techniques in producing, writing, cinematography, directing, and editing. Students are required to write, produce, and direct a short film. (Note: Students are required to share in the expenses involved in their productions.) Prerequisite: "C" or better in CMS 113 or permission by instructor. Laboratory fee.

CMS 136 RADIO BROADCASTING AND PRODUCTION 3 Credits

This course is designed to teach the fundamentals of radio production. Students examine the basic audio and studio operating procedures and gain hands-on experience in operating a radio broadcasting station. This is a theoretical as well as a "hands-on" course that splits time between lecture, lab, and station operation. Laboratory fee.

CMS 210 TELEVISION PRODUCTION II 3 Credits

This is an advanced course for those students interested in acquiring increased knowledge and sophistication in the production of television programs. Remote shooting, field production, and studio operations are principal components of the course. Students in CMS 210 participate in the Essex County College Observer (ECCO) -TV productions. Prerequisite: "C" or better in CMS 110. Laboratory fee.

CMS 219 VIDEO PRODUCTION 3 Credits

This advanced hands-on course allows students to create and develop a series of independent video productions. The tasks that students undertake include script writing, producing, directing, scheduling productions, camera operating, field videotaping, and post-production editing. (Note: Students are required to purchase their own videotapes.) Prerequisite: "C" or better in CMS 110. Laboratory fee.

ENG 151 MASS COMMUNICATIONS AND CULTURE 3 Credits

This course surveys and examines mass communications, concentrating on radio, television, film, and other electronic and print media. The expression of popular culture through the mass media is analyzed and evaluated. Prerequisite: "C" or better in ENG 101.

Computer Information Systems

CIS 107 COMPUTER LITERACY 3 Credits

This introductory course in personal computers is specifically designed for students who have had little or no experience using the personal computer. The course introduces important computer concepts and provides students with hands-on lab experiences to prepare them for word processing assignments in college courses and for further study in computer-related courses. CIS 107 can be used as

a free elective in all departments except Computer Information Systems. Laboratory fee.

CIS 111 INFORMATION PROCESSING I 4 Credits

This course provides an introduction to JavaScript programming. Topics covered include integrating JavaScript and HTML, creating pop-up windows, adding scrolling messages, validating forms, enhancing the use of images and form objects, working with cookies, arrays, and frames, and using objects to create a shopping mall application. Prerequisite: "C" or better in CIS 153. Laboratory fee.

CIS 114 INTRODUCTION TO VISUAL BASIC 4 Credits

This is a course about problem solving with computers. The programming language used is Visual Basic. Hands-on use and manipulation of Windows events, forms, controls, components, and structured programming techniques are covered. The examples and exercises present a sampling of the way that computers are used in society. Prerequisites: "C" or better in MTH 092 and CIS 107 or CSC 100. Laboratory fee.

CIS 131 MICROCOMPUTERS IN BUSINESS 3 Credits

This course provides hands-on instruction on the applications of microcomputers in the business environment. Students gain experience in using application software packages such as Microsoft Office. The course includes an introduction to Windows, Microsoft Word, Excel, Access, Outlook, and PowerPoint. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Prerequisite: Some computer literacy is strongly recommended. Laboratory fee.

CIS 135 MICROCOMPUTER SPREADSHEETS 3 Credits

This course provides hands-on instruction in the use of Excel for Windows. It covers basic spreadsheet design and creation, formulas, charts, and data management. Step-by-step instruction using realistic case studies emphasizes the important features of the software. (Advanced features, case studies, and macro creation using Visual Basic are covered in CIS 235). Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Prerequisite: "C" or better in CIS 107. Laboratory fee.

CIS 136 DESKTOP PUBLISHING FOR IBM COMPUTERS 3 Credits

This course provides hands-on instruction to develop students' understanding of desktop publishing using Microsoft Office and the Internet. Topic covered include basic concepts, layout and good form, research, creating a presentation, using templates, and working with text, fonts, clip-art, drawings, and photographs. Students are required to design a variety of presentations as well as printed works indicative of their competence and typical of those found in business and industry as part of their portfolio. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Prerequisite: "C" or better in CIS 107. Laboratory fee.

CIS 137 MICROCOMPUTER DATABASES 3 Credits

This course provides hands-on instruction in the use of the database management package, Access. This course is designed to help students plan, create, and maintain database files for typical business needs. The course covers basic concepts, displays, editing, sorting and querying of information, producing forms and reports, and managing multiple databases. A final class project is assigned. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Prerequisite: "C" or better in CIS 107. Laboratory fee.

CIS 139 MULTIMEDIA CONCEPTS 3 Credits

This course provides an introduction to many of the individual components of interactive, computer-assisted communications. Because multimedia technology is a tool, the applications are practically endless and multimedia may mean different things to different people. It may be a communications tool to some and an artistic medium to others. It can also be a teaching tool or a way to complete a business transaction. This course assists students in planning and developing multimedia presentations in their field of interest. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Prerequisite: "C" or better in CIS 107. Laboratory fee.

CIS 152 INTERNET CONCEPTS 3 Credits

This course provides a basic introduction to the world wide computer communications network, the Internet, including the World Wide Web. Students gain an understanding of the history and background as well as the hardware and media that comprise the Internet. This is a research-oriented course in which Internet Protocol, net etiquette, e-mail, accessing Internet services, File Transfer Protocol, and searching the databases are explored. Students are provided hands-on introduction to the HyperText Markup Language (HTML) used to create World Wide Web sites in the Internet. Students also create their own web site and begin to use the Language (HTML) to create, edit, and maintain their site. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Prerequisite: "C" or better in any CIS course. Laboratory fee.

CIS 153 ADVANCED INTERNET CONCEPTS AND APPLICATIONS 3 Credits

This course is an extension of the basic introduction to the Internet language covered in CIS 152. Students learn to design and improve World Wide Web sites. The course also covers more complex tables, manipulation of

Frames, Common Gate Interface (CGI), Cascading Style Sheets (CSS), and a brief introduction to JavaScript within the confines of HTML tags. Incorporating multimedia files (audio and video) are also covered. CSS and JavaScript are discussed on a very basic level with the goal of introducing students to tools that enhance HTML and add dynamic content to web sites. Upon the completion of this course, students will be prepared to take the introductory course in JavaScript (CSS 111). Prerequisite: "C" or better in CIS 152. Laboratory fee.

CIS 212 SYSTEMS ANALYSIS AND DESIGN 3 Credits

This course gives an overview of the systems development life cycle covering the information gathering and reporting activities from the analysis phase through the implementation phase. The course introduces the classical and structured tools/techniques for describing process flow, data flows, data structures, file design, input/output designs, and program specifications. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Prerequisite: "C" or better in any CIS course.

CIS 215 DATA COMMUNICATIONS 3 Credits

This course is designed to develop an understanding of current data communications technology as it applies to information systems. Topics covered include basic concepts and terminology as it relates to data communications and networks, with particular emphasis on local area networks. Students are required to design PC network hardware configurations based upon selected case studies. Prerequisite: "C" or better in CIS 212 or permission of the instructor.

CIS 235 ADVANCED MICROCOMPUTER SPREADSHEETS 3 Credits

This course is a continuation of CIS 135, which introduced students to the spreadsheet analysis application, Excel for Windows. Continuing the step-by-step instruction using case studies, advanced Excel features and OLE (Object Linking and Embedding), hyperlink to the Internet and Visual Basic functions are covered. Special attention is paid to creating macro modules using Visual Basic. An advanced research project is required. Pre- or Co-requisite: ENG 101 (passing grade of "C" or better). Prerequisite: "C" or better in CIS 135. Laboratory fee.

CIS 237 ADVANCED MICROCOMPUTER DATABASE 3 Credits

This course is a continuation of CIS 137 emphasizing advanced features of database management. Topics covered include creating customized forms and reports, creating charts and graphs, advanced queries and OLE (Object Linking and Embedding), macros, and hyperlink to the Internet and Visual Basics. A case project is assigned to be completed by the end of the semester. Pre- or Co-requisite: ENG 101 (passing grade of "C" or better). Prerequisite: "C" or better in CIS 137. Laboratory fee.

Computer Sciences

CSC 100 FUNDAMENTALS OF COMPUTER SCIENCE 3 Credits

This course introduces the elementary concepts of computer science and is specifically designed for students planning to major in the discipline. The course emphasizes the various aspects of computing such as problem solving, algorithm design, and program construction. Students also explore the application of computer science to various real-world problems. An object-oriented programming language is used to develop the student's problem solving and programming skills. Successful completion of programming projects requires students to use a computer laboratory outside of the class period. Co-requisite: MTH 092.

CSC 104 NETWORK FUNDAMENTALS 3 Credits

This course is an introduction to microcomputer hardware and operating system components associated with network technology. It includes examination of microprocessors, databases, ports, and video displays. Laboratory fee.

CSC 105 NETWORK ADMINISTRATION 4 Credits

This course provides the necessary information and hands-on laboratory experience for students who intend to administer Local Area Networks. The course provides students with technical knowledge in the areas of networking connectivity, data communications, and communication protocols. Students are required to demonstrate their proficiency in the subject matter by completing a series of laboratory exercises. Prerequisite: "C" or better in CSC 104. Laboratory fee.

CSC 108 CLIENT OPERATING SYSTEMS 4 Credits

This is a course in the organization, structure, and implementation of operating systems typically used by clients in Local and Wide Area Networks. The course covers in detail the features associated with graphical, secure, 32-bit network operating systems such as Windows 2000 Professional. Students must be prepared for extensive hands-on work in a client/server environment. Prerequisite: "C" or better in CSC 104. Laboratory fee.

CSC 110 ROUTING AND SWITCHING FUNDAMENTALS 4 Credits

This course is designed to introduce the fundamental terminology, concepts, and principles associated with the configuration and implementation of Cisco routers in Local and Wide Area Networks. The course covers in detail the OSI Reference Model, IP addressing, signaling and data

transmission, and network topologies. All course topics correspond to the first semester of the Cisco Networking Academy Program curriculum for the CCNA examination. The course is taught in a lecture, discussion, and demonstration format within the confines of a specialized laboratory. Laboratory fee.

CSC 111 ROUTING AND SWITCHING WIDE AREA NETWORKS **4 Credits**

This course is a continuation of CSC 110. Students develop the knowledge to configure Cisco routers in Local and Wide Area Networks. The course covers in detail router configuration, IP addressing, WAN routing protocols, and network troubleshooting. All course topics correspond to the second semester of the Cisco Networking Academy Program curriculum for the CCNA examination. Students are required to complete a selected series of router implementation and configuration exercises to pass the course. The course is taught in a lecture, discussion, and demonstration format within the confines of a specialized laboratory. Prerequisite: "C" or better in CSC 110. Laboratory fee.

CSC 112 COMPUTER PROGRAMMING FOR ENGINEERING & TECHNOLOGY **3 Credits**

This course is an introduction to computer-oriented problem solving and programming and their applications in engineering. It provides the essential foundation for a program of study in object-oriented programming and computer-oriented mathematics. It covers the general areas of data analysis (graphics, sorting, and statistics), curve fitting (regression and interpolation), and equation solving. Students learn programming and the use of general-purpose application software tools such as spreadsheets, database, and mathematical software. Students are required to complete a series of laboratory assignments illustrating applications of computer-oriented problem solving. Prerequisite: "C" or better in MTH 113 or MTH 119.

CSC 121 COMPUTER SCIENCE I **4 Credits**

This course serves as an introduction to the concepts and methodologies fundamental to computer science. Emphasis is placed upon object-oriented design and analysis with a thorough discussion of the concepts and principles associated with object-oriented programming. A high level object-oriented language is utilized for programming assignments and to illustrate conceptual material. It is recommended that a student be enrolled concurrently in either MTH 113 or MTH 119 to derive the most benefit from the course. Prerequisite: "C" or better in MTH 100.

CSC 122 COMPUTER SCIENCE II **4 Credits**

This course explores further the concepts introduced in CSC 121, applying them to more complex problems. Areas covered include class construction, class instantiation, file/stream processing, list processing, string processing, dynamic storage allocation, and internal search/sort methods. Prerequisite: "C" or better in CSC 121 and MTH 113 or MTH 119.

CSC 210 ADVANCED NETWORK ADMINISTRATION **4 Credits**

This is a continuation of CSC 105. Emphasis is on the advanced concepts of network administration in a Microsoft Windows 2000 environment. The course provides the necessary information through lecture and hands-on laboratory work for the management of local area networks. Topics covered include server management, client configuration, network security configuration, and network infrastructure administration. Students are required to demonstrate their proficiency in the subject matter by completing a series of laboratory exercises. Prerequisite: "C" or better in CSC 105. Laboratory fee.

CSC 211 INTERNETWORKING **4 Credits**

This course is designed to enhance students' knowledge of the implementation and configuration of Cisco routers in an internetworking environment. It covers in detail LAN switching, Virtual LANs, Access Control Lists, Interior Gateway Routing Protocol, and network management. All course topics correspond to the third semester of the Cisco Networking Academy Program curriculum for the CCNA examination. Students are required to complete a selected series of router implementation and configuration exercises to pass the course. The course is taught in a lecture, discussion, and demonstration format within the confines of a specialized laboratory. Prerequisite: "C" or better in CSC 111. Laboratory fee.

CSC 212 ADVANCED INTERNETWORKING **4 Credits**

This course develops students' knowledge of Wide Area Network Design. It covers in detail the concepts and design implementations for Wide Area Networks using the Point-to-Point Protocol, ISDN, and Frame Relay. Topics covered correspond to the fourth semester of the Cisco Networking Academy Program curriculum for the CCNA examination. Students are required to complete a network design project to pass the course. The course is taught in a lecture, discussion, and demonstration format within the confines of a specialized laboratory. Prerequisite: "C" or better in CSC 211. Laboratory fee.

CSC 221 COMPUTER SYSTEMS AND ARCHITECTURE **4 Credits**

This course provides a general introduction to the structure of computer systems and covers Assembly language for a specific computer. Topics discussed include machine components and cycles, assemblers, addressing techniques, macros, subroutines, program linkage, and input/output. A specific Assembly language is developed and implemented. Students

must be prepared for extensive individual work in the computer laboratory. Prerequisite: "C" or better in CSC 122.

CSC 225 DATA STRUCTURES 4 Credits

This course is designed to present the fundamentals of data structures from an object-oriented perspective. The course introduces students to the design and implementation of abstract data types using an object-oriented programming language. The course includes introduction to algorithm analysis, recursion, and internal and external sorting/searching methods. The fundamental concepts of inheritance and virtual functions are also examined. Students are required to complete a series of programming projects that demonstrate their understanding of lecture topics. Prerequisite: "C" or better in CSC 122.

CSC 228 OPERATING SYSTEMS 4 Credits

This course examines the concepts, designs, and operations of modern real-time, general-purpose operating systems. The course covers fundamental operating system technology as well as contemporary design principles such as real-time systems, multiprocessor scheduling, memory management, file management, and security and network processing. Students are required to complete a selected series of programming projects that illustrate operating system design principles. Prerequisite: "C" or better in CSC 225.

CSC 231 DATABASE DESIGN 4 Credits

This course introduces the concepts and techniques associated with the manipulation of mass storage based files. Topics explored include various file processing environments, access methods, typical data structures, and file design and implementation. Students must be prepared for extensive individual work in the computer laboratory. Prerequisite: "C" or better in CSC 122.

CSC 235 ADVANCED OBJECT-ORIENTED PROGRAMMING 4 Credits

This course covers the object-oriented paradigm associated with programming in a network environment. The course focuses on topics that relate to developing object-oriented applications for the Internet, Intranets, and World Wide Web. The Java programming language is used to illustrate software development for network environments. Topics covered include applet construction, animation, class construction, exception handling, graphics, HTML interfacing, and graphical user interface design. Students are required to develop and implement a network application. Prerequisite: "C" or better in CSC 225.

Cooperative Education

CEE 298 COOPERATIVE EDUCATION EXPERIENCE I 1-4 Credits

This course is designed to give students practical employment experience in their majors or related fields of study. Students typically work for a 12 to 15 week period under supervision in the workplace and are guided through their experiences by faculty advisors. Participants in this course also receive classroom training in the Career Development Seminar I – *Preparing for the Workplace*, which covers career assessment and planning, resume writing, interviewing, and job search techniques.

CEE 299 COOPERATIVE EDUCATION EXPERIENCE II 1-4 Credits

Students participating in a second cooperative education experience receive continued or additional employment experience in positions related to their majors or career goals. Participants in this course receive classroom training in the Career Development Seminar II – *Succeeding in the Workplace*, which teaches business communication, teamwork, leadership, and other skills necessary for job success.

Criminal Justice

CJI 101 INTRODUCTION TO CRIMINAL JUSTICE 3 Credits

This introductory course on the principles and problems of the criminal justice system analyzes the role of the criminal justice officer in the community, the rights of the individual citizen, and the laws under which we live. The course examines in depth the organization and administration of the courts, corrections, and law enforcement agencies. The course includes analysis of the opportunities and obligations of the criminal justice officials, and those in law enforcement, correctional services, and courts. Special topics such as terrorism and cyber crime are also explored. Using various multimedia platforms, the course explores criminal justice issues, examines the issues that influence offenders, and identifies explanations for delinquent and criminal behavior. Students are required to complete a field assignment involving in-court observations. Pre- or Co-requisites: ENG 096/097 and RDG 096/097 (passing grade of "C" or better for each), or placement.

CJI 102 POLICE ROLE IN THE COMMUNITY 3 Credits

The course includes analysis of the social, economic, population, and political factors that affect the relationship between police and the community. The course examines community/police partnership collaborations and a problem-solving approach to policing. The course will also explore special topics such as community policing, the use of deadly force, terrorism, policing the drug problem, and civil liability. Prerequisite: "C" or better in CJI 101.

CJI 103 PROBATION AND PAROLE 3 Credits

This course presents probation as a judicial process and parole as an executive function. A historical review of trends in probation and parole such as the community-based pro-

grams in work release, half-way house contract program planning, therapeutic community, and treatment team concepts in probation and parole are examined. Modern trends, such as the justice model, determinate sentencing, restorative justice, "broken windows" supervision, and intensive supervision in the adult and juvenile system are also examined. The course includes discussion of the community resources that can be brought to bear on the correctional task and the concept of shock probation. Prerequisite: "C" or better in CJI 101.

CJI 104 CONSUMER LAW AND PROTECTION 3 Credits

This course is designed to provide students with an understanding of consumer law that will be of value in their everyday lives. Topics covered include family law, housing law, environmental law, consumer law, individual rights, and local, state, and federal consumer protection agencies. Students are required to complete a research project and submit the result in an acceptable form. Prerequisite: "C" or better in CJI 101.

CJI 111 POLICE ADMINISTRATION AND ORGANIZATION 3 Credits

This course examines the organizational framework, authority structure, and major functions of representative police agencies. It also covers the administrative problems of allocating responsibility and support functions and of coordinating many large and small area commands. The course includes discussion of recruitment, career advancement, and selection of leadership. Prerequisite: "C" or better in CJI 101.

CJI 112 POLICE MANAGEMENT 3 Credits

Principal areas of emphasis include the duties and responsibilities of the police supervisor, personnel problems, and handling of disciplinary problems, complaints, and grievances. The principles of efficient leadership, the relevance of motivation and communication, and techniques of teaching are presented. Prerequisite: "C" or better in CJI 101.

CJI 120 PRISON SUBCULTURES AND LIFESTYLES 3 Credits

This course focuses on the theoretical and policy issues and dilemmas of the American correctional system in handling citizens who have been imprisoned. It examines the origin and nature of the inmate social system, inmate social roles, and the prison socialization process. It explores, partly from the inmate's own perspective, modern concepts of behavior modification, punishment, community alternatives to im-prisonment, and probable trends in the practice of correction. Prerequisites: C" or better in CJI 101.

CJI 121 INTRODUCTION TO CORRECTIONS 3 Credits

This course examines the total correctional process from law enforcement through the administration of justice, probation, prisons, correctional institutions, and parole. Prerequisite: C" or better in CJI 101.

CJI 123 CORRECTIONAL ADMINISTRATION 3 Credits

This course examines the principles of organization and management as applied to correctional institutions. It covers the theoretical and practical aspects of correctional management. Factors such as organization, decision making, values, human relations, and power are considered. Prerequisite: "C" or better in CJI 121.

CJI 134 INTRODUCTION TO SECURITY 3 Credits

This course surveys the concepts and issues surrounding the administration of security techniques and provides an overview of the functions of a wide range of security activities in a democratic society. Pre- or Co-requisites: ENG 096/097 and RDG 096/097 (passing grade of "C" or better for each).

CJI 135 SECURITY ADMINISTRATION 3 Credits

The purpose of this course is to introduce the student to the management and administration of a private security force and/or agency. Special attention is given to selection of security personnel, licensing/bonding requirements, and administrative style. Prerequisite: "C" or better in CJI 134.

CJI 136 CRIMINOLOGY 3 Credits

This course examines the various causative explanations of the nature of crime and criminal behavior and society's reaction to criminal and correctional institutions. Major theories of criminal behavior and current issues of crime prevention and control are also covered. The course explores criminal justice issues, examining the explanations for delinquent and criminal behavior, using various multimedia platforms. Special topics such as the motivations of terrorist, serial killers, pedophiles, and assassins are also explored. Students are required to complete a field assignment involving in-court observations. Prerequisite: "C" or better in CJI 101 or SOC 101 or PSY 101.

CJI 137 PRINCIPLES OF LOSS PREVENTION 3 Credits

This is a theory course on the development of physical, operational, and other security programs. It explains the various types of surveys used to identify loss exposures and the management processes which define proper security countermeasures to use for specific vulnerabilities. Accepted theories and principles associated with loss prevention are 185, presented as basic tools for decision-making. Students enrolling in the course should have background in typical applications of security countermeasures and also in organizational frameworks defining the level at

which security decision-making is required. Prerequisites: "C" or better in CJI 134 and 135.

CJI 138 UNIFORMED SERVICES 3 Credits

This survey course exposes the student to a wide range of activities and responsibilities associated with uniformed protection services in both "in-house" and commercial organizations. Students gain familiarity with typical duties in such areas as patrol, fire prevention, plant safety, first aid, and disaster control. The course also examines current trends in professionalism, use of firearms, and licensing. Specific duties associated with selected industries such as transportation, hospitals, and educational institutions are explored. Prerequisite: "C" or better in CJI 134.

CJI 139 SECURITY HARDWARE 3 Credits

This survey course focuses on physical security countermeasures, particularly on the design and monitoring of electronic alarm systems, responses to alarm signals, and identifying the causes of false alarms. The techniques used in integrating various physical security measures, both electronic and non-electronic, into an effective facility program are examined with consideration given to such determinant factors as desired or required profile, regulatory requirements, impact on operational requirements, and alternative countermeasures. Students enrolling in this course should have knowledge of processes used in loss prevention decision-making and have some background in physical security measures vis à vis the total security function. Prerequisite: "C" or better in CJI 134. Co-requisite: CJI 137.

CJI 201 PATROL ADMINISTRATION 3 Credits

This course examines in detail the primary police functions and their objectives. It analyzes administrative planning of patrol activities, requirements for their effective execution, and the allocation of patrol strength to meet specific needs and emergencies. Prerequisite: "C" or better in CJI 101.

CJI 202 CRIME AND DELINQUENCY 3 Credits

This course surveys the nature and extent of crime and delinquency and examines the major approaches to causation, apprehension, control, and treatment. The course explores sociological, psychological, and multidisciplinary explanations for delinquent and criminal behavior using various multimedia platforms. The course also examines special topics such as gangs, youth violence, child abuse investigation, juvenile sex offenders, and juvenile waiver to adult court. Students are required to complete a field assignment involving in-court observations. Prerequisite: "C" or better in CJI 101 or SOC 101 or PSY 101 or SOC 108.

CJI 204 EVIDENCE 3 Credits

This course surveys the basic rules of evidence important to law enforcement personnel and criminal justice students. It includes a study of the applicable amendments to the constitution, landmark Supreme Court decisions, the Federal Rules of Evidence, Hearsay, and recent changes in the rules of evidence at the federal and state levels. Students are required to complete a field assignment involving in-court observations. Prerequisite: "C" or better in CJI 101 or LAS 101 or LAS 106.

CJI 205 INTRODUCTION TO CRIMINAL LAW 3 credits

This course expands on concepts introduced in CJI 101, Introduction to Criminal Justice. It traces the definition of crime and the origins of criminal law in the United States. Discussion topics include basic legal terminology, classification of crimes, specific criminal offenses, and the New Jersey courts. This course also amplifies and further develops Criminal Procedure topics initially covered in CJI 101, Introduction to Criminal Justice. The course explores conflicting models of justice, due process, and crime control. The Bill of Rights and major Supreme Court decisions as they affect the operation of the courts, including the juvenile courts and correctional systems, are a central theme and focus. Prerequisite: "C" or better in CJI 101 or LAS 101 or LAS 106.

CJI 210 FORENSIC SCIENCE 3 Credits

This is an introductory course on the application of physical, chemical, behavioral, medical, and biological sciences to physical evidence used to explain or solve civil and/or criminal law cases. This course explores the collection, examination, evaluation, and interpretation of physical evidence. Emphasis is placed on lecture and demonstration. Prerequisite: "C" or better in CJI 101.

CJI 211 COUNSELING THE ADDICTED OFFENDER 3 Credits

This course provides an introduction to the knowledge, skills, attitudes, case management, and counseling techniques required for the counseling and treatment of the addicted offender. The course includes a review of the special needs of this population and the focus programs and facilities set up to treat them in addictions and criminal justice settings. This course is a joint offering of the Criminal Justice and Human Services programs of the Social Science Division. Pre- or Co-requisites: ENG 096/097 and RDG 096/097 (passing grade of "C" or better for each).

CJI 250 CURRENT ISSUES IN CRIMINAL JUSTICE 3 Credits

This course examines the current critical issues in the criminal justice system. It includes comparison and analysis of pending cases before the federal and state courts. Students learn about previous decisions and other topics of a social nature that can impact on the administration of the criminal justice system. Prerequisite: "C" or better in CJI 101.

Dance

DAN 161 MODERN INTERPRETIVE DANCE I 3 Credits

This studio course offers basic instruction for beginning and intermediate students. The course will focus on developing the familiarity and understanding of the major systems of modern dance.

DAN 162 MODERN INTERPRETIVE DANCE II 3 Credits

Continuation of DAN 161. Prerequisite: "C" or better in DAN 161.

Dental Auxiliaries (offered through UMDNJ - School of Health Related Professions)

DAS 103 DENTAL MATERIALS (Core Course) 3 Credits

This course introduces the dental student to the chemical and physical properties of materials most commonly used in dental practice. It includes discussion of theory, and demonstration and performance of basic laboratory and operatory procedures as related to these materials. Emphasis is placed on the expanded functions as listed in the New Jersey Dental Auxiliary's Act. Prerequisite: Formal acceptance into the program.

DAS 106 DENTAL SCIENCE 2 Credits

The dental student is introduced to the basic principles of pharmacology as it relates to the practice of dentistry. Students also learn how to relate the basic principles of general pathology to disease conditions of the oral cavity and related structures. Prerequisite: Formal acceptance into the program.

DAS 107 CLINICAL ASSISTING 4 Credits

Students learn clinical application of the principles and techniques learned in previous courses as pre-clinical procedures. Expanded functions allowed by the State of New Jersey are practiced in the New Jersey Dental School during the clinical rotation assignments; students thereby gain practical experience with dentists, patients, and other auxiliary personnel. Prerequisites: "C" or better in DAS 110 and DHY 205.

DAS 108 PRACTICE MANAGEMENT 1 Credit

This course provides the dental hygiene and dental assisting student with background information required to effectively manage the business office of a dental practice. Prerequisite: Formal acceptance into the program.

DAS 110 INTERNSHIP 1 Credit

This course incorporates the pre-clinical principles and techniques addressed in DHY 112 and DHY 205. Chairside assisting, office management, laboratory assignments, inventory control, radiographs, and expanded functions allowed by the State of New Jersey for dental assistants are performed during the clinical rotation assignments in private practice. Prerequisites: "C" or better in DAS 103 and DHY 205.

DHY 100 INTRODUCTION TO CLINICAL DENTAL HYGIENE 4 Credits

This course develops students' basic knowledge, skills, and judgments necessary for prevention of diseases of the teeth and surrounding tissue. Students learn via lectures, seminars, self-instructional audio-visual presentations, and reading assignments. Laboratory and clinical experiences provide the opportunity for practical application of the principles of comprehensive dental hygiene treatment. Prerequisite: Formal acceptance into the program.

DHY 101 DENTAL HEAD AND NECK ANATOMY (Core Course) 3 Credits

This course examines the basic structures of the oral cavity, the nomenclature, structure and morphology of the teeth, and function of the teeth. Demonstrations and lecture sessions emphasize the clinical appearance of the anatomical features of the teeth, and the relationship of the teeth to adjacent teeth, opposing teeth, immediately surrounding tissues, and approximating tissues. This course also deals with the structure and function of the cross structures of the head and neck. Discussions emphasize important anatomical concepts. Prerequisite: Formal acceptance into the program.

DHY 102 DENTAL RADIOLOGY (Core Course) 3 Credits

Lecture and laboratory sessions focus on the principles of radiology and its clinical application. Lecture topics include x-ray production, processing, intra and extra oral techniques, quality assurance, utilization of radiographic selection criteria, radiographic interpretation and radiation biology and safety, infection control, and hazardous waste disposal. Laboratory experience includes simulation exercises with mannequins, and working with assigned patients. Students are taught via lectures and demonstrations, and are responsible for answering workbook questions and completing a quality assurance project. Students who take the laboratory component will also complete a portfolio with a self-evaluation paper. Prerequisite: "C" or better in DHY 112.

DHY 103 CLINICAL DENTAL HYGIENE I 3 Credits

Students are offered introduction and demonstration in advanced techniques used during a dental hygiene appointment including oral physiotherapy, applying fluoride, treatment planning, adjunctive instrumentation, hypersensitivity testing, and airbrasive treatment. Case studies are examined with respect to treatment planning, behavior modification strategies, and adult and pediatric preventive counseling. Prerequisites: "C" or better in DHY 100, DHY 101, and DHY 112.

DHY 104 CLINICAL SERVICES I **2 Credits**

The student learns to perform the basic procedures relative to the traditional dental hygiene appointment. Learning will be through clinical experience and weekly seminars. The seminar supports and supplements clinical education with discussion of topics relating to: treatment planning, time management with respect to setting up patient appointments and running the clinic, telephone skills, legal and ethical issues surrounding patients records, sharpening, adjunctive instrumentations, tobacco cessation, and latex sensitivity. Prerequisites: "C" or better in DHY 100, DHY 102, and DHY 112.

DHY 106 NUTRITION **2 Credits**

This course offers students knowledge and skills to apply in the dental setting in the areas of nutrition, diet evaluation, and counseling relative to oral health. Prerequisite: Formal acceptance into the program.

DHY 107 ORAL EMBRYOLOGY AND HISTOLOGY **2 Credits**

The course develops students' basic knowledge of general histology and embryology and detailed knowledge of histology and embryology of the head, neck and oral cavity. Teaching methods include lecture, laboratory, and slide presentations. Prerequisites: "C" or better in DHY 101, DHY 105, BIO 121, and BIO 122.

DHY 110 MEDICAL EMERGENCIES IN THE DENTAL OFFICE (Core Course) **1 Credit**

The course is designed to prepare the student to play a vital role in the management of medical emergencies. Information is offered on recognizing and treating emergency situations. The medical history and evaluation section of this course is designed specifically to help obtain and record accurately the patient's past and present physical condition, and to modify the dental hygiene treatment plan accordingly. Prerequisite: Formal acceptance into the program.

DHY 112 INTRODUCTION TO THE DENTAL PROFESSIONS (Core Course) **4 Credits**

Topics relevant to the practice of dentistry, including concepts pertaining to general and specialty practice are covered in this class. The purpose is to introduce students to the areas of the profession and allied dental education. Prerequisite: Formal acceptance into the program.

DHY 113 DENTAL HEALTH EDUCATION (Core Course) **1 Credit**

This course is designed to prepare the dental hygiene student to help individuals and groups develop patient education programs. Emphasis is given to focusing on the patient as a whole person, analyzing the patient's lifestyles, values, behavioral patterns, and the environment in which the patient lives. The course covers the processes involved in the development, implementation, and evaluation of dental health education programs in a number of settings. Prerequisite: "C" or better in DHY 112.

DHY 200 ORAL PATHOLOGY **2 Credits**

The course covers abnormalities in morphology and function. Since abnormalities begin at the cellular level, this course also begins with cellular alterations and response. The majority of the course is devoted to oral pathology, with emphasis placed on those lesions most frequently encountered. For each lesion discussed, the etiology, pathogenesis, clinical and microscopic signs and symptoms, differential diagnosis, treatment, follow-up, and prognosis are presented. Limited discussion will be devoted to general pathology as it relates to oral lesions and manifestations. Prerequisites: "C" or better in DHY 100, DHY 101, DHY 106, DHY 107, BIO 121, BIO 122, and BIO 211.

DHY 201 PERIODONTOLOGY I **2 Credits**

The course examines the basic concepts of the anatomy and physiology of the gum with regard to the pathology of the periodontium, and the etiology and treatment of periodontal disease. The relationship between the histopathologic changes of the supporting structures of the teeth and the clinical situation is stressed. The course includes information on the dental hygienist's role in initial therapy and as a disease control therapist in maintaining oral health. Prerequisite: Formal acceptance into the program.

DHY 202 CLINICAL DENTAL HYGIENE II **2 Credits**

This course is designed to further educate the dental hygiene student in various aspects of clinical practice. Included in this course is information relative to the care and treatment of the periodontic, adolescent, pregnant, geriatric and special needs patients. Lectures, student presentations and interviews, discussions, and case studies are used to enhance learning. Prerequisite: "C" or better in DHY 103.

DHY 203 CLINICAL SERVICES II **3 Credits**

The student is required to demonstrate advanced techniques relative to the dental hygiene appointment, including oral physiotherapy, treatment planning, behavior modification strategies, and adult and child preventive counseling. Case presentations are also discussed and analyzed. Students learn from the seminar and clinical experience. Prerequisites: "C" or better in DHY 103, 104, 107, 110, and 113.

DHY 204 DENTAL HEALTH EDUCATION/ COMMUNITY DENTAL HEALTH **2 Credits**

This course examines the principles and practices with

regard to delivering health care to the public. Topics covered include: Dental public health, the role of the dental auxiliary in delivering public health, research methods and biostatistics, planning and evaluation of community dental health programs, and tools of public health, including epidemiology, dental indices, and reliability and validity of research methods. Prerequisite: Formal acceptance into the program.

DHY 205 DENTAL SPECIALTIES I (Core Course)1 Credit

Students are given the opportunity to manipulate properties of dental materials used in the practice of dentistry. Biological considerations in the selection and utilization of dental materials is covered. Students learn about the way the clinical applications react to the oral environment. The course is a prerequisite to DHY 210, where the student will function and perform expanded duties to laboratory proficiency. The expanded duties are outlined in the New Jersey Dental Auxiliary Practice Act. This course consists of both lecture and laboratory sessions. Prerequisite: "C" or better in DAS 103.

DHY 207 CLINICAL SERVICES III 3 Credits

This course further refines students' clinical skills and prepares them to apply their knowledge of pathology and periodontology to the clinical setting. Prerequisite: "C" or better in DHY 203.

DHY 209 PHARMACOLOGY AND ORAL MEDICINE 1 Credit

This course introduces the dental hygiene student to pharmacology as it relates to the practice of dentistry. Students receive preparation for dealing with adverse drug reactions, pharmacological effects, and their usual incitations and contraindications. Prerequisite: Formal acceptance into the program.

DHY 210 DENTAL SPECIALTIES II 1 Credit

This course is designed to build upon the knowledge and skills developed in DHY 205. Students will rotate throughout the clinic, where they will function as New Jersey expanded duties dental hygienists/dental assistants, and become clinically proficient in all expanded duties listed in the New Jersey Dental Auxiliary Practice Act. In addition, dental hygiene students will attend the New Jersey Dental School Pain Control course to obtain necessary information about the application of pain control techniques. Prerequisite: "C" or better in DHY 205.

DHY 211 PERIODONTOLOGY II 2 Credits

This lecture course is a continuation of DHY 201. Students further explore clinical manifestations of periodontal disease and its treatment using case histories. Guest lecturers present the most current information on available clinical and adjunctive home care aids. Students' knowledge is further enhanced through case presentations and review of articles on current developments. Prerequisite: "C" or better in DHY 201.

DHY 213 CAPSTONE SEMINAR 2 Credits

The Capstone Seminar is to be taken at the conclusion of the student's program of study. Students are expected to synthesize what they have learned in the Dental Hygiene major by putting together a case study for publication and presentation, using appropriate research methods and analysis of oral pathological conditions. Prerequisites: All DAS and DHY courses to this level.

DHY 215 PAIN AND ANXIETY CONTROL 1 Credit

This course is designed to introduce the student to the principles of local anesthesia in dentistry. Emphasis is placed on clinical application of these principles. Anatomy of the head and neck is stressed throughout the course, including in depth review of the trigeminal nerve and neurophysiology. The pharmacology of various local anesthetics and vasoconstrictors are reviewed. Discussion of systemic toxicity and local anesthetics alert the student to emergencies that can develop in the dental suite. Local anesthetic techniques are discussed. A rational approach to selecting anesthetic and injection techniques for each patient is presented. Co-requisite: DHY 210.

Drama

DRA 101 FUNDAMENTALS OF ACTING I 3 Credits

This course assists the student in developing pretextual techniques, including memory and sensory exercises and improvisations for the stage. The student's abilities to observe, concentrate, and imagine are also developed. Additionally, the course develops the student actor's ways and means of controlling body tension. As part of the practicum, short scenes are assigned to be rehearsed and performed in class for evaluation.

DRA 102 FUNDAMENTALS OF ACTING II 3 Credits

This is a continuation of DRA 101. Prerequisite: "C" or better in DRA 101. Note: Students taking Fundamentals of Acting are encouraged to take Introduction to the Theater (ENG 250).

DRA 104 THEATER WORKSHOP 3 Credits

This is a performance course for advanced acting students. The students present all forms of theatrical productions for the college community. Prerequisite: "C" or better in DRA 101 or placement.

DRA 108 INTERPRETIVE SPEECH 3 Credits

This course introduces the student to the techniques of dramatic interpretation of plays, poetry, short stories, and other prose pieces from literature. As a performance ori-

ented course, its purpose is to give the student an opportunity to make poetry and drama come alive for an audience. The interpreter learns to create the dramatic dimensions of set, characterization, and mood through use of his/her voice alone. The class has several exhibitions of dramatic reading and an end of term Readers Theater Production. Prerequisite: "C" or better in DRA 101 or placement.

Economics

ECO 101 PRINCIPLES OF ECONOMICS (MACRO) 3 Credits

This course provides an introduction to the principles of macroeconomics. Topics covered include supply and demand, free market ecosystems, the role of government, national income accounting, GDP, Keynesian fiscal policy, money and banking, Federal Reserve monetary policy, and current economic problems. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

ECO 102 PRINCIPLES OF ECONOMICS II (MICRO) 3 Credits

This course provides an introduction to the principles of microeconomics. It covers elasticity of supply and demand, marginal utility, cost of production, break even analysis, marginal analysis of all market models, antitrust issues, farm problems, labor market issues, urban poverty problems, and international trade and economics. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

Education

ECE 101 EARLY CARE AND EDUCATION I 4 Credits

This course introduces the paraprofessional in early childhood education to the Child Development Associate (CDA) credentialling process and provides comprehensive instruction in early childhood education. The first three CDA competency goals and functional areas are discussed. Students begin to develop a professional resource file. Students who enroll in the course must have (within the past five years) at least 480 hours of experience working with children from infancy through five years old in a group setting. Strategies learned in the course will be practiced in the student's childcare center. Prerequisite: High school diploma or GED.

ECE 102 EARLY CARE AND EDUCATION II 4 Credits

This course builds on the knowledge and skills developed in ECE 101. It focuses on practical skills needed to successfully complete the Child Development Associate (CDA). The last three competency goals and functional areas are discussed. Students complete the professional resource file. Students enrolled in the course must have (within the past five years) at least 480 hours of experience working with children from infancy through five years old in a group setting. Strategies learned in the course will be practiced in the student's childcare center. Prerequisite: "C" or better in ECE 101. Co-requisite: ECE 103

ECE 103 EARLY CARE AND EDUCATION FIELD EXPERIENCE 3 Credits

This course allows the paraprofessional to develop and demonstrate professional standards and practical skills in an early childhood setting. It provides students the opportunity to put theory into practice. Students are required to document working hours toward the requisite 480 hours of experience in one of the following childcare settings: center-based preschool, center-based infant/toddler facility, or a family childcare facility. Prerequisite: "C" or better in ECE 101. Co-requisite: ECE 102

EDU 101 INTRODUCTION TO EDUCATION 3 Credits

This course introduces students interested in a career in education to some of the concepts, practices, and procedures of contemporary American education. The organization and operation of American schools, their financial and legal support, their place and role in the community, as well as some of the historical and philosophical foundations upon which American education is predicated, are examined. Teaching as a profession is also examined. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

EDU 103 PHILOSOPHY AND HISTORY OF EDUCATION 3 Credits

This course examines some of the most prominent concepts and philosophers in the field of education. Focus is on those educational theories and ideas that have shaped educational practices. Prerequisite: "C" or better in EDU 101.

EDU 201 EDUCATION IN URBAN ENVIRONMENT 3 Credits

This course examines the educational and social forces affecting the learning process of the inner city student. Issues considered include multiculturalism and the educational system, the effect of social institutions on the educational process, and the role of the teacher in the urban school. Prerequisite: "C" or better in EDU 101.

EDU 203 CHILDREN WITH SPECIAL NEEDS 3 Credits

This course is designed for those who plan to work with children who have special needs due to physical or mental differences or debilitating life situations. Emphasis is on meeting the needs of the child in an institutional setting, especially in agencies and schools. Prerequisite: "C" or better in PSY 101 or permission of the instructor.

EDU 205 EARLY CHILDHOOD EDUCATION 3 Credits

This is an introductory course in early childhood education. It includes discussion of curriculum for young children, focusing on the importance of appropriate goals, teaching methods, and teaching tools. Topics covered include practical scheduling, routines, and classroom management. Prerequisite: "C" or better in EDU 101 or permission of instructor.

EDU 207 PRINCIPLES AND PRACTICES IN EDUCATION 3 Credits

This course examines the goals, curriculum, and teaching methods of schools. New organizational patterns and new techniques are introduced. Prerequisite: "C" or better in EDU 101 or permission of instructor.

EDU 209 AUDIOVISUAL AIDS 3 Credits

This course covers the use of audiovisual materials including films, tapes, slides, photographs, and transparencies with emphasis on displays, classification, storage, acquisition, and repair. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

EDU 233 EDUCATION SEMINAR I 3 Credits

The seminar meets a minimum of one hour per week. Students discuss and analyze teaching strategies and their implementation at the educational sites where they are completing their fieldwork. Students are expected to use their knowledge and skills from academic courses in seminar discussion and relate this to their fieldwork assignments. Co-requisite: EDU 234.

EDU 234 EDUCATION FIELDWORK I 3 Credits

Students are placed in a voluntary internship for a minimum of ten hours per week. The site may be a day care center, public or private school, or a special agency serving children. Students will teach and perform other duties under the supervision of the site staff and Essex County College faculty. Evaluation is conducted throughout the semester cooperatively by the faculty member and the professionals at the educational site. Co-requisite: EDU 233.

EDU 235 EDUCATION SEMINAR II 3 Credits

This internship seminar is a continuation of EDU 233. Co-requisite: EDU 236.

EDU 236 EDUCATION FIELDWORK II 3 Credits

This second semester internship placement is a continuation of EDU 234. Co-requisite: EDU 235.

EDU 270 PRINCIPLES AND TEACHING STRATEGIES IN EARLY CHILDHOOD EDUCATION 3 Credits

This course presents the principles underlying age-appropriate strategies of instruction in graphic arts, music, drama, language, science, and the social sciences in an early childhood educational setting. Prerequisite: "C" or better in EDU 101.

EDU 271 MODERN TRENDS IN EARLY CHILDHOOD EDUCATION 3 Credits

This course examines the current use of television, computers, and community resources as teaching tools. It covers models of early childhood education including the Open Classroom, the Montessori School, the Piagetian Pre-School, and behavior analysis procedures. Prerequisite: "C" or better in EDU 101.

Electronic Engineering Technology

ELC 115 ELECTRIC CIRCUITS: DC AND AC 4 Credits

This introductory course in circuit analysis defines the electrical quantities, current, and voltage, and examines their relationship in various components and circuits. Circuits comprised of resistance, capacitance, and inductance which are energized by both DC and AC sources are considered. The theory includes Ohm's Law, Kirchhoff's Laws, series and parallel circuits, and several network theorems. In the laboratory the student performs electrical measurements which confirm his/her grasp of the theory. A circuit simulation computer software package is introduced and used as an analytical tool. Co-requisite: MTH 113. Laboratory Fee.

ELC 120 ELECTRONICS I: SEMICONDUCTOR COMPONENTS 4 Credits

This course introduces students to the active components used in electronics circuits. It covers the physics, the characteristics, and some applications of semiconductor diodes and transistors. The emphasis is on transistor biasing circuits. These devices and their applications are also studied through laboratory experiments. Prerequisite: "C" or better in ELC 115 or permission. Laboratory Fee.

ELC 211 ELECTRIC POWER 3 Credits

This course treats in detail the subject of electrical power including its generation, distribution, and utilization. It presents the theory, construction, maintenance, and characteristics of AC and DC motors, generators, and transformers. The associated laboratory is an integral part of the course. Prerequisite: "C" or better in ELC 115. Laboratory Fee.

ELC 218 PULSE AND DIGITAL CIRCUITS 3 Credits

This course is an introduction to computer electronics. It includes Boolean Algebra, fundamentals of logic, logic circuits, and digital logic systems. Laboratory work is closely allied with theory and includes computer simulation.

Prerequisite: “C” or better in ELC 115. Laboratory Fee.

ELC 221 ELECTRONICS II: AMPLIFIERS 4 Credits

This course extends ELC 120 to include AC analysis of transistor circuits. Electronic amplification is examined in considerable detail. Field effect transistors (FET) and integrated circuits (IC) are introduced. Laboratory work, complementing the theoretical work, is emphasized. Prerequisite: “C” or better in ELC 120. Laboratory Fee.

ELC 222 ELECTRONICS III COMMUNICATIONS SYSTEMS 4 Credits

This is the final course in the electronics sequence. Topics covered include modulation and demodulation for AM, FM, PM, and TV. Transmitters, receivers, and transmission characteristics are studied. Concepts of information theory, waveform analysis, and noise are introduced. Prerequisite: “C” or better in ELC 221. Laboratory Fee.

ELC 224 LINEAR CIRCUIT ANALYSIS 3 Credits

This course introduces the basic theory and mathematical tools for analyzing Linear Electronic Systems. Areas covered include feedback concepts, frequency-response, transfer functions, and bode diagrams. Laboratory experiments are performed to support the theory. Prerequisite: “C” or better in ELC 221. Laboratory Fee.

ELC 228 INTRO TO MICROPROCESSORS 4 Credits

This is an introductory course in microprocessor applications for students who already have basic knowledge of digital circuits principles. Computer hardware organization is analyzed, and machine-language programs are written and run. Hardware and software aspects of a popular eight-bit microprocessor are studied in detail. Theoretical ideas are reinforced by building and testing realistic experimental systems in the laboratory. Prerequisite: “C” or better in ELC 218. Laboratory Fee.

ELC 230 CIRCUITS AND SYSTEMS FOR ENGINEERING 3 Credits

This is a calculus-based course in electric circuit theory and analysis for Engineering A.S. degree program students interested in pursuing computer or electrical engineering. It includes DC and AC principles with an emphasis on Kirchoff's laws, network theorems for resistive, capacitive, and inductive networks, mesh and nodal analysis, and sinusoidal steady-state analysis. Also, power, resonance, and ideal transformers are studied. The theory is reinforced with instructor run demos. Assignments include the use of circuit analysis computer software. Prerequisites: “C” or better in PHY 104, MTH 122, and in either CSC112 or CSC121.

Energy Utility Technology

UTI 101 INTRODUCTION TO THE ENERGY UTILITY INDUSTRY 3 Credits

This course provides an overview of the energy utility industry and occupational opportunities, including but not limited to history of providing reliable service, regulatory influences, electric/gas energy flow & basic terminology, typical conditions for employment, and career opportunities. Prerequisites: “C” or better in ENG 096 and MTH 092 or placement, and ENR 100 or placement.

UTI 102 FUNDAMENTALS OF GAS COMBUSTION 3 Credits

This course provides students with the fundamentals of gas combustion, including knowledge and skills to diagnose combustion problems and make the proper adjustments to obtain complete combustion at the rated input using standard tools. Prerequisite: “C” or better in UTI 101.

UTI 103 FUNDAMENTALS OF POWER ALTERNATING CURRENT 3 Credits

This course provides participants with the fundamentals of the energy utility industry’s alternating current theory, including, but not limited to vector analysis of power (KW,KVARS & KVA), power factor, phase angles, polyphase loads (Wye & Delta), and control of system efficiency. Pre-requisites: “C” or better in UTI 101 and ELC 115.

UTI 104 INTRODUCTION TO APPLIANCE SERVICE 7 Credits

This course provides participants with knowledge and skills to perform piping on residential appliances, work with utility gas regulators/meters, and conduct gas leak investigation, in accordance with industry standards & D.O.T. Pipeline Operator Qualification regulations. Prerequisites: “C” or better in UTI 102 and ELC 115.

UTI 105 INSIDE PLANT OPERATIONS 7 Credits

This course provides participants with knowledge and skills in electrical energy industry operations of switching stations and substations using safe work practices/procedures. The course covers one-line diagrams, types of stations, safety tagging, interrupting control prints, using basic test equipment, and communications. Prerequisite: “C” or better in UTI 103.

UTI 106 INTRODUCTION TO ENERGY UTILITY ENGINEERING 4 Credits

This course provides participants with the basic knowledge, skills, & technical background in construction, equipment, practices/procedures, design/layout, and typical problems of electrical distribution engineering. Prerequisite: “C” or better in UTI 103.

UTI 107 INTRODUCTION TO METERING 4 Credits

This course provides participants with fundamental knowledge and skills in the selection, installation, & testing for self-continued Watt-hour electrical energy measurement. Prerequisite: "C" or better in UTI 103.

UTI 108 INTRODUCTION TO UNDERGROUND UTILITIES 4 Credits

This course provides participants with the knowledge & skills to assist with electric utility underground distribution, construction, and maintenance. Students learn safe work practices, construction standards, operating practices, and testing procedures to become competent in the field. Pre-requisite: "C" or better in UTI 103.

UTI 109 INTRODUCTION TO GAS DISTRIBUTION 4 Credits

This course provides the student with the fundamental knowledge and skills to achieve 16 basic operator qualifications necessary for gas utility construction and maintenance, in accordance with D.O.T. Pipeline Operator Qualifications regulations. Prerequisite: "C" or better in UTI 102.

UTI 110 INTRODUCTION TO POWER PLANT OPERATIONS AND MAINTENANCE 6 Credits

This course provides participants with an overview of the electric generation process and of power plant systems and functions. They will obtain the knowledge and skills necessary for safe power plant operation, learn power company philosophy, and receive an overview of generating site facilities, interdepartmental responsibilities, proper health, industrial and environmental safety, and communication practices. Prerequisite: "C" or better in UTI 103.

UTI 201 ENERGY UTILITY COOPERATIVE EDUCATION I 4 Credits

Participants apply the knowledge & skills learned within the specific occupational concentration while working as part of an energy utility represented associate team. The learner will be required to complete a guided field experience checklist for the specific occupation. Pre-requisite: "C" or better in UTI 103 and one UTI course elective approved by an advisor.

UTI 202 ENERGY UTILITY COOPERATIVE EDUCATION II 4 Credits

Participants apply the knowledge & skills learned within the specific occupational concentration while working as part of an energy utility represented associate team. The learner will be required to complete a guided field experience checklist for the specific occupation. Pre-requisite: "C" or better in UTI 201 and one UTI course elective approved by an advisor.

Engineering

ENR 100 INTRODUCTION TO ENGINEERING TECHNOLOGIES AND SCIENCE 3 Credits

This introductory course in engineering technologies and science professions is designed to help students select the technology field of interest to them. Use of computer applications, written communications, and report writing is also emphasized. Word processing, mathematics packages, spreadsheets, design software packages, and programming software packages are introduced. Students utilize software packages while learning more about each branch of engineering and technology. A field trip is also included. Pre- or Co-requisites: ENG 096 and MTH 092 (passing grade of "C" or better for each), or placement.

ENR 103 ENGINEERING GRAPHICS 2 Credits

This interdisciplinary course covers pencil and paper sketching and drawing of orthographic, isometric, and auxiliary projections in three-dimensional space. The course includes lettering, sectioning, dimensioning, documentation, and an introduction to Computer Aided Design (CAD) using AutoCAD software. Prerequisite: "C" or better in MTH 092 or placement. Laboratory Fee.

ENR 105 APPLIED COMPUTER AIDED DESIGN 2 Credits

This first course in Computer Aided Design (CAD) uses the latest release of AutoCAD software. Students are introduced to the terminology, use, and capabilities of CAD. Through hands-on instruction, students learn to complete projects using the latest hardware and software. After starting with the beginning draw and edit commands, the course proceeds to cover tolerance dimensioning, printing, the creation of symbols libraries, isometric rendering, three dimensional wire-frame modeling, and blocks with attributes. Prerequisite: "C" or better in ARC 101 or ENR 103. Laboratory Fee.

ENR 106 INTERMEDIATE COMPUTER AIDED DESIGN 2 Credits

This course uses the latest release of CAD software commonly used in workplaces. Through hands-on instruction, students learn to complete a series of CAD projects. Topics covered include drawings in different disciplines, three-dimensional wire, surface, and solid modeling, geometric dimensioning and tolerancing, shading, and rendering. Prerequisite: "C" or better in ENR 103. Laboratory fee.

ENR 110 MECHANICS 3 Credits

This is a course in trigonometry-based applied statics for technology students, and it involves the fundamental principles of the mechanics of rigid bodies. Topics covered include vectors, forces, moments, center of gravity, free-body diagrams, equilibrium, simple trusses, friction,

and moment of inertia. Prerequisites: "C" or better in MTH 113 and PHY 101.

ENR 205 ADVANCED CAD 3 Credits

This course is designed to introduce advanced CAD applications using the latest versions of operating systems as well as the most recent CAD systems. The course covers attribute and attribute extraction, external reference files, rendering and animation, and solid modeling. It includes an introduction to customization. Prerequisite: "C" or better in ENR 105 or placement. Laboratory fee.

ENR 211 ENGINEERING MECHANICS I STATICS 3 Credits

This is a course in calculus-based statics. Topics covered include elementary vector algebra, scalar and vector products as applied to two and three-dimensional force systems, equilibrium, friction, second moments, and virtual work. Extensive use is made of the free body diagram approach and vector analysis. Prerequisites: "C" or better in MTH 121 and PHY 103.

ENR 212 ENGINEERING MECHANICS II DYNAMICS 3 Credits

This is a course in kinematics and kinetics using vector analysis. Topics covered include curvilinear motion with respect to fixed and rotating axes of particles and rigid bodies, work, energy, impulse, and momentum. Prerequisite: "C" or better in ENR 211.

ENR 220 MECHANICS OF MATERIALS 4 Credits

This course covers stresses and deformation in structural members due to axial tensile and compressive loads, torsional loads on shafts, and bending and shear loads on beams. It also covers the basic design of structural members based on the analysis of stress and deformation. Laboratory exercises are included to complement lecture topics. Prerequisite: "C" or better in ENR 110. Co-requisite: MTH 114. Laboratory Fee.

ENR 250 COMPUTER AIDED DESIGN PROJECT 2 Credits

In this course, students apply the skills they learned from previous CAD courses to individually design a comprehensive project in their fields using specialized CAD software commonly used in workplaces. For example, manufacturing and mechanical students design parts using a parametric solid modeling package; architectural students make architectural designs using an animation and rendering package; civil construction/surveying students complete projects in construction, road design, and surveying using civil and mapping packages. Students are provided internship opportunities with industry. Prerequisite: "C" or better in ENR 205. Laboratory Fee.

English

ENG 088 COLLEGE LANGUAGE STUDIES 7.5 Credits

College Language Studies is a reading/writing skills course designed to develop student ability to comprehend and analyze texts. This course will take a whole language approach. Students will not only read and discuss texts but will also learn to write about them. The writing skills component emphasizes fluency, writing process, sentence structure, and paragraph development. Students will utilize various text materials as a springboard for writing assignments. Texts studied will be used as sources for student writing, providing not only potential content but also structural and stylistic examples. A study skills course is also a co-requisite. Co-requisite: ENG 088T and CSS 101.

ENG 088T COLLEGE LANGUAGE STUDIES (Tutorial) 2 Credits

Supplemental instruction of ENG 088 is a combination of self-directed web-based, classroom, and individualized "one-on-one" instruction with faculty as well as trained instructional assistants. Emphasis is on reinforcement of classroom lecture as well as training in the use of the College's web-based system for student information, registration, library usage, etc. Co-requisites: ENG 088 and CSS 101.

ENG 096 ENGLISH FOUNDATIONS 4.5 Credits

This course is designed to enable the student to write at college level. By applying the writing process, the student will write a number of essays, adhering to the principles of English grammar, usage, mechanics, and punctuation. Prerequisites: ENG 088 or ESL 105/106 (passing grade of "C" or better for each), or placement. Co-requisite: ENG 096T

ENG 096T ENGLISH FOUNDATIONS (TUTORIAL) 1 Credit

Supplemental instruction of ENG 096 is a combination of self-directed web-based, classroom, and individualized "one-on-one" instruction with faculty as well as trained instructional assistants. Emphasis is on reinforcement of classroom lecture as well as training in the use of the College's web-based system for student information, registration, library usage, etc. Co-requisite: ENG 096.

ENG 101 COLLEGE COMPOSITION I 3 Credits

Expository writing is taught through principles of rhetoric, mechanics, and style. Critical thinking is developed through analysis and discussion of selected essays. Introductory library procedures are taught. Prerequisite: "C" or better in ENG 096/097 or placement. Pre- or Co-requisite: RDG 096/097 (passing grade of "C" or better), or placement.

ENG 102 COLLEGE COMPOSITION II **3 Credits**

This course develops students' ability to write longer compositions using advanced library skills, research techniques, and proper documentation. Students are introduced to literature and develop interpretive skills through literary discussions. The goal is also to develop students' appreciation of fine writing and an understanding of literary concepts. The course culminates in the production of an original, extensive, multiple source, fully documented research paper. Prerequisite: "C" or better in ENG 101.

ENG 105 TECHNICAL WRITING **3 Credits**

Emphasizing the need to write clearly in any professional setting, this course introduces a variety of technical and business writing formats including resumes, business correspondence, formal and informal reports and proposals, and memos. A variety of research and documentation techniques and styles is also covered. Prerequisite: "C" or better in ENG 101.

ENG 106 AMERICAN ENGLISH PHONETICS FOR THE ESL STUDENT **3 Credits**

This is a non-technical course for the student whose first language is not English. It deals with the sounds of English and its sound patterns (stress, rhythm, pitch, and intonation). Students practice words and conversational phrases, listen to tapes, record their own voices, and give talks in class. The goal is to enable them to be readily understood when they speak English, and to understand the spoken English they hear. Prerequisite: placement/ advisement.

ENG 108 VOICE AND DICTION **3 Credits**

This course is designed for students who wish to improve control over their voices in speaking, and to study and practice English pronunciation and articulation through a series of planned exercises and drills. Students are required to practice and apply the proper methods of voice production and articulation to improve their performance. Prerequisite: placement.

ENG 109 EFFECTIVE SPEECH **3 Credits**

This course covers the basic elements of oral communication. Students are required to prepare and present several brief speeches with emphasis on content, organization, and delivery. Pre- or Co-requisite: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Completion of or simultaneous enrollment in ENG 101 is strongly recommended.

ENG 141 INTRODUCTION TO JOURNALISM **3 Credits**

This is an introductory course for students who wish to acquire technical and analytical knowledge of newspaper and news magazine literature. The course covers all major aspects of journalism and the journalistic process. Prerequisite: "C" or better in ENG 101 or written departmental approval.

ENG 142 JOURNALISM II **3 Credits**

Designed to give the student a working knowledge of journalistic writing, this course emphasizes the composition of news stories, feature articles, and other types of copy. The printing process, picture editions, page makeup, and problems and responsibilities of the key positions on a newspaper staff are also stressed. Prerequisite: "C" or better in ENG 141.

ENG 144 JOURNALISM WORKSHOP **1 Credits**

This course provides the opportunity to apply the techniques learned in journalism theory courses. Students have the opportunity to work on a variety of college publications. Prerequisite: "C" or better in ENG 141.

ENG 151 MASS COMMUNICATIONS AND POPULAR CULTURE **3 Credits**

This course surveys and examines mass communications, concentrating on radio, television, film, and other electronic and print media forms. The expression of popular culture through the mass media is analyzed and evaluated. Prerequisite: "C" or better in ENG 101.

ENG 169 CREATIVE WRITING **3 Credits**

Designed to give practice, guidance and criticism to students interested in becoming writers, this course emphasizes the development of creative talent through structured assignments, independent writing, and the analysis of selected literary works. Prerequisite: "C" or better in ENG 101 or written departmental approval.

ENG 205 THE WESTERN LITERARY TRADITION **3 Credits**

The literary tradition of the western world is examined from its roots in the Old Testament and the Koran through its culmination in the European Renaissance. Students conduct an intensive study of selected literary masterpieces. Prerequisite: "C" or better in ENG 102 or ENG 105.

ENG 208 SURVEY OF SHAKESPEAREAN LITERATURE **3 Credits**

This survey course examines Shakespeare's histories, comedies, and tragedies, paying close attention to the major themes and characters, and their place in the social and literary context. Prerequisite: "C" or better in ENG 102 or ENG 105.

ENG 215 MODERN LITERARY MASTERPIECES **3 Credits**

The development of modern literary thought is examined from the post-Renaissance era to the present day.

Students conduct an intensive study of selected masterpieces of world literature. Prerequisite: "C" or better in ENG 102 or ENG 105.

ENG 221 AMERICAN LITERATURE I 3 Credits

The student is acquainted with representative selections of American literature, both poetry and prose, from pre-Revolutionary times to the Civil War. The contributions of minority writers to American literature are considered. Prerequisite: "C" or better in ENG 102 or ENG 105.

ENG 222 AMERICAN LITERATURE II 3 Credits

The student is acquainted with representative selections of American literature, both poetry and prose, from the time of the Civil War to the contemporary era. The contributions of minority group writers to American literature are considered. Prerequisite: "C" or better in ENG 102 or ENG 105.

ENG 232 AFRICAN AND CARIBBEAN LITERATURE 3 Credits

The literary traditions of sub-Saharan Africa and the Caribbean, from their oral beginnings to the present, are examined through an intensive study of selected works. Particular emphasis is placed on the sociocultural and political forces that have shaped this literature as well as on the mode of presentation. Negritude is examined and folklore is analyzed, particularly in its relationship with written literature in European languages. Prerequisite: "C" or better in ENG 102 or ENG 105.

ENG 237 SURVEY OF AFRO-AMERICAN LITERATURE 3 Credits

Beginning with the slave narratives of 1700 and proceeding to the protest writings of modern times, this survey course examines the literature of the African American in America, and gives importance to the historical development. Prerequisite: "C" or better in ENG 102 or ENG 1 0 5 .

ENG 238 MAJOR BLACK AMERICAN WRITERS 3 Credits

This course addresses the development of literary trends and values as well as prevailing social conditions as they are represented by Black American writers from early to modern literature. Prerequisite: "C" or better in ENG 102 or ENG 105.

ENG 242 MODERN LATIN AMERICAN LITERATURE 3 Credits

This course offers an introduction to the emerging voices of Latin America. In presenting the literature of this region, importance is given to the history, politics, and culture of Latin America, enabling students to recognize the literary works as an expression of a common humanity. Prerequisite: "C" or better in ENG 102 or ENG 105.

ENG 250 INTRODUCTION TO THE THEATER 3 Credits

The drama as a literary and theatrical form is examined from early through modern plays. Students conduct intensive study of selected plays from the points of view of the playwright, actor, director, designer, and audience. Prerequisite: "C" or better in ENG 102 or ENG 105.

ENG 263 SURVEY OF WOMEN'S LITERATURE 3 Credits

The course considers literary examples of the classical and Judeo-Christian attitudes toward women, then moves toward the more modern period where there has been not only an obvious increase in the amount of writing by and about women, but also a more sensitive exploration of their role in society. Prerequisite: "C" or better in ENG 102 or ENG 105.

ENG 264 CONTEMPORARY WOMEN'S LITERATURE 3 Credits

This course examines the rise of contemporary women's writing in the United States and globally. It focuses on the ways in which this literature has developed as a means of exploring what it is to be a woman in today's world. The course concentrates on literature that represents the commonalities and differences among women's varied experiences in diverse cultural, social, economic, political, and personal situations. Prerequisite: "C" or better in ENG 102 or ENG 105.

English as a Second Language

ESL 073 ESL INTENSIVE EXPERIENCE CULTURE 3 Credits

This is an introductory course designed to expose English as a Second Language students to several aspects of American society. Through field trips, class discussions, media exposure, student presentations, and course readings, students discuss, question, and effectively experience elements of American cultural life. Topics such as family life, holidays, sports, and the educational system are discussed. Students are also challenged to understand and appreciate the ethnic, religious, and linguistic diversity of the United States as they begin to examine their prior assumptions and understanding of cultures other than their own. All class sessions are conducted in English. Prerequisites: Placement through the departmental writing exam and an oral interview conducted by an academic advisor in the Bilingual Studies Department. Co-requisites: ESL 074, ESL 075, ESL 076, & ESL 077.

ESL 074 ESL INTENSIVE EXPERIENCE LISTENING & COMPREHENSION 3 Credits

This is a basic English as a Second Language course designed to enhance and develop the listening compre-

hension of non-native speakers of English. Through class conversations, individual and group listening exercises, and lab work, students are exposed to conversations and spoken narratives, and asked to demonstrate an understanding of the basic messages communicated through these texts. Students also receive practice in selective listening as they are asked to listen more discriminately to the more formal aspects of the language. All class sessions are conducted in English. Prerequisites: Placement through the departmental writing exam and an oral interview conducted by an academic advisor in the Bilingual Studies Department. Co-requisites: ESL 073, ESL 075, ESL 076, & ESL 077.

ESL 075 ESL INTENSIVE EXPERIENCE SPEAKING 3 Credits

This is a basic English as a Second Language course designed to facilitate and develop the communicative oral competence of non-native speakers of English. Through the use of role-playing, dialogue, conversations, and oral presentations, students enhance their speech fluency and increase their ability to communicate basic needs, ideas, and feelings about everyday life. Students are afforded a comfortable and nurturing environment as they practice using English for the accomplishment of goal-oriented tasks of an academic and functional nature. All class sessions are conducted in English. Prerequisites: Placement through the departmental writing exam and an oral interview conducted by an academic advisor in the Bilingual Studies Department. Co-requisites: ESL 073, ESL 074, ESL 076, & ESL 077.

ESL 076 ESL INTENSIVE EXPERIENCE READING 3 Credits

This is a basic English as a second language reading comprehension course for students who demonstrate first language literacy and some prior exposure to English. Selections from literature, popular media, and academic texts are read and discussed. Students learn to employ specific reading and pre-reading strategies, expand their vocabulary, and increase their understanding of written English. Students are also challenged to speak and write about the concepts and issues addressed in the class readings. All class discussions are conducted in English. Prerequisites: Placement through the departmental writing exam and an oral interview conducted by an academic advisor in the Bilingual Studies Department. Co-requisites: ESL 073, ESL 074, ESL 075, & ESL 077.

ESL 077 ESL INTENSIVE EXPERIENCE WRITING 3 Credits

This is a basic English as a second language writing course for students who demonstrate first language literacy and some prior exposure to English. Through lecture, group dynamics, and one-on-one student-teacher interaction, students learn to communicate ideas with increased fluency, clarity, and grammatical accuracy in English, while gradually decreasing their reliance on first language translation. Use of fundamental pre-writing and revision strategies enable students to effectively carry out writing tasks of both an academic and functional nature. All class sessions are conducted in English. Prerequisites: Placement through the departmental writing exam and an oral interview conducted by an academic advisor in the Bilingual Studies Department. Co-requisites: ESL 073, ESL 074, ESL 075, & ESL 076.

ESL 080 ESL BASIC ACADEMIC GRAMMAR 4.5 Credits

This course is for students who need to understand basic English grammatical structures for effective communication and self-error analysis and correction. The grammatical structures will be presented in a natural context through informative, high-interest readings, meaningful discussions, and follow-up exercises. Co-requisite: ESL 080T.

ESL 080T ESL BASIC ACADEMIC GRAMMAR (Tutorial) 1 Credit

Supplemental instruction of ESL 080 is a combination of self-directed web-based, classroom, and individualized "one-on-one" instruction with faculty as well as trained instructional assistants. Emphasis is on reinforcement of classroom and lecture as well as training in the use of the College's web-based system for student information, registration, library usage, etc. Co-requisite: ESL 080.

ESL 095 ESL WRITING, READING AND COMMUNICATION 6 Credits

This is an intermediate ESL writing course designed for students whose first language is not English. Through extensive reading and writing activities, students will learn to read and write English with greater confidence and ease. In this course, students will read authentic and unedited works of popular fiction and non-fiction in English. By reading, discussing, and writing about what they read, students will enhance their vocabulary and comprehension of written English. Students will also learn to produce fluent, coherent, logical, and academic prose, as they write about topics and books read in class. Grammar will be explained in the context of student writings in an effort to clarify meaning. This course is conducted in English. Prerequisite: Placement through the Bilingual Placement Exam. Co-requisites: ESL 095T.

ESL 095T ESL WRITING, READING AND COMMUNICATION (Tutorial) 2 CREDITS

Supplemental instruction of ESL 095 is a combination of self-directed web-based, classroom, and individualized "one-on-one" instruction with faculty as well as trained instructional assistants. Emphasis is on reinforcement of classroom and lecture as well as training in the use of the College's web-based system for student information, registration, library usage, etc. Co-requisites: ESL 095.

ESL 100 FORM AND FUNCTION OF ENGLISH **3 Credits**

This course is designed to help ESL students gain a better understanding of English grammatical structures necessary for effective communication. The grammatical structures studied in this class are from authentic, unabridged reading material and students' writings. The focus is on analysis of errors that are typical for ESL students who experience first language interference. This course is for students who are at the ESL 103/104 or ESL 105/106 level, and will be conducted in English. Prerequisites: "C" or better in ESL 095 or placement by writing sample and interview.

ESL 103 ESL WRITING AND COMMUNICATION II **3 Credits**

This is a course for students whose first language is not English. The goal of this course is to develop students' ability to understand, summarize, and discuss abstract ideas in formal academic English. Students learn to produce grammatically accurate, logical, connected, well-developed essays. This course is conducted in English. Prerequisites: "C" or better in ESL 095 or placement through the Bilingual Placement Exam. Co-requisite: ESL 104.

ESL 104 ESL READING AND COMMUNICATION II **3 Credits**

This is a course for students whose first language is not English. Through the reading of authentic works of fiction and non-fiction, students increase their command of American English vocabulary, syntax, writing, and speaking styles, and gain introductory knowledge of relevant aspects of American culture, history, and society. This course is conducted in English. Prerequisites: "C" or better in ESL 095 or placement through the Bilingual Placement Exam. Co-requisite: ESL 103.

ESL 105 ESL WRITING AND COMMUNICATION III **3 Credits**

This course is for students whose first language is not English. Students learn to write a variety of expository pieces such as paraphrases, book reports, summaries of articles, essays, and term papers. Library research may be required for projects. Students learn to write with grammatical accuracy and clear focus, give importance to logical development of ideas and support for main ideas, and prepare appropriate introductions and conclusions. The course is conducted in English. Prerequisites: "C" or better in ESL 103 or placement through the Bilingual Placement Exam. Co-requisite: ESL 106.

ESL 106 ESL READING AND COMMUNICATION III **3 Credits**

This course is for students whose first language is not English. The goal of this course is to develop skills necessary for accurate reading and comprehension of unabridged novels, periodicals, non-fiction, and reference materials in anticipation of further college-level work. Students are required to demonstrate reading and comprehension skills through in-class oral presentations, double-entry journals, and a research project. The research project is a synthesis of what has been read and discussed in class. This course is conducted in English. Prerequisites: "C" or better in ESL 104 or placement through the Bilingual Placement Exam. Co-requisite: ESL 105.

ESL 108 ACCELERATED WRITING **3 Credits**

The purpose of this course is to guide students through the process of writing and organizing multi-paragraph essays following standard rhetorical techniques. The course addresses the entire process of writing, from the pre-writing stage to the editing and revision steps where grammar and mechanics are covered. Prerequisites: Placement through a writing exam and an oral interview. Co-requisites: ESL 109, ESL 110, ESL 111, and ESL 112.

ESL 109 ACCELERATED READING **3 Credits**

This course enables students to efficiently pick out main ideas as well as details from a variety of sources including segments from newspapers, magazines, and novels. Students are required to outline and summarize some of these materials. Techniques for increasing vocabulary are taught. The course assists students in making the transition to college level reading. Prerequisites: Placement through a writing exam and an oral interview. Co-requisites: ESL 108, 110, 111, and 112.

ESL 110 ACCELERATED SPEAKING **3 Credits**

This course offers students an opportunity to improve their speaking ability. Students' pronunciation difficulties are addressed as well as their use of idiomatic English. Students also present several speeches focusing on content and organization. Academic language in class discussions is emphasized. Prerequisites: Placement through a writing exam and an oral interview. Co-requisites: ESL 108, ESL 109, ESL 111, and ESL 112.

ESL 111 ACCELERATED LISTENING COMPREHENSION **3 Credits**

This course is designed to improve students' listening skills in both academic and personal settings. Lectures, videos, and other teaching tools are used to enhance students' abilities to identify and comprehend main ideas as well as details. Note-taking strategies are practiced to help students prepare for college-level communication demands. Prerequisites: Placement through a writing exam and an oral interview. Co-requisites: ESL 108, ESL 109, ESL 110, and ESL 112

ESL 112 AMERICAN CULTURE & DIVERSITY **3 Credits**

The purpose of this course is to familiarize international students with basic aspects of American culture and histo-

ry in preparation for college-level courses. The course engages students in discussions and writings on assigned readings. Students are encouraged to use academic language in classroom discussions and writings. Prerequisites: Placement through a writing exam and an oral interview. Co-requisites: ESL 108, ESL 109, ESL 110, and ESL 111.

Finance

FIN 101 INTRODUCTION TO FINANCE 3 Credits

This course presents a framework of money management concepts. It covers establishment of goals, determining sources of income, and preparing a budget. Emphasis is placed on budget preparation, the development of consumer buying ability, and the use of credit. Students will learn the financial implications of savings and about providing for adequate retirement and estate planning. Prerequisite: "C" or better in ECO 101.

FIN 201 MONEY AND BANKING 3 Credits

This course presents the history of American banking institutions, principles, and practices. Emphasis is on the relationship of finances to business structure, operation, and organization. The course examines present-day financial structures, agents, problems, and institutions. It provides the students with the fundamentals of monetary theory and the role of monetary policy in the economy. Prerequisite: "C" or better in ECO 102.

FIN 207 PRINCIPLES OF INVESTMENT 3 Credits

This course provides an introduction to the security investment process. It reviews the investment strategy associated with various types of stock orders, discusses the fundamental and technical approaches to common stock analysis, and examines bond and preferred stock pricing mechanisms. The course also reviews the unique aspects of derivative security, mutual funds, real estate, and limited partnership investments. Prerequisite: "C" or better in ECO 101.

FIN 209 INTERNATIONAL FINANCE 3 Credits

This course introduces the student to the international financial environment. It focuses on the financial management of businesses operating in international markets. The course covers international monetary systems and foreign exchange risks. Students will learn about short-term and long-term financial markets and the risks associated with them. Prerequisite: "C" or better in ECO 101.

FIN 211 FINANCE SEMINAR/EXPERIENTIAL AND DIRECTED STUDY 3 Credits

In consultation with a faculty advisor, students design and complete an independent project related to an internship, current employment, or life experience. This project aids in the assimilation of students' practical off-campus work or life experience in business, industry, or cultural organizations with their studies and or career interests. The course draws upon students' experiences and integrates them with study in the finance option. Students are required to attend a weekly one-hour session with their professor when they will discuss readings, assignments, and projects. Prerequisite: "C" or better in FIN 101.

French

FRN 101 ELEMENTARY FRENCH I 3 Credits

This is the first half of a one-year course for students with little or no background in the French language. Listening comprehension, speaking, reading, and writing are developed within the limits of basic vocabulary, idioms, and grammar. Pre- or Co-requisites: ENG 096 and RDG 096 or ESL 103 and ESL 104 (passing grade of "C" or better for each), or placement.

FRN 102 ELEMENTARY FRENCH II 3 Credits

This course is a continuation of FRN 101. It is designed to expand students' knowledge of vocabulary and grammar to include multiple tenses and uses of the verb. The four language skills: listening comprehension, speaking, reading, and writing continue to be developed. Prerequisite: "C" or better in FRN 101 or placement.

Geographic Information Systems

GIS 101 CARTOGRAPHY/COMPUTER MAP READING 3 Credits

This course covers the fundamentals of cartography. Topics include coordinate systems, theoretical principles, and acquisition and use of location data using both continuous and discrete geo-referencing methods. The course provides an introduction to preparation and interpretation of data in cartographic form and the use of computers for map compilation, design, and production. It includes principles of Global Positioning Systems (GPS), surveying, digital cartography, and methods of map making. Pre- or Co-requisites: ENG 096/097 and RDG 096/097 (passing grade of "C" or better for each), or placement. Co-requiste: MTH 101.

GIS 111 FUNDAMENTALS OF GEOGRAPHIC INFORMATION SYSTEM 4 Credits

This course deals with the use of computer mapping and database in multiple applications. The course supports incorporation of imagery and data into a geographic oriented database system, and provides insights into different GIS techniques, approaches, and applications. Topics covered include data structures, basic functions, methods of data capture, sources of data, as well as the nature and source of spatial data and objects. Prerequisite: "C" or better in GIS 101.

GIS 201 INTRODUCTION TO SPATIAL ANALYSIS **4 Credits**

This course exposes students to various components of spatial analysis. Emphasis is placed on modeling and decision making with the use of spatial data. Additional emphasis is placed on the acquisition, refinement, and analysis of data from numerous sources. The course promotes the analytical and critical thinking that is required when conducting statistical analysis of geographic data. Emphasis is placed on understanding data at a descriptive level for conducting statistical analysis. Prerequisite: "C" or better in GIS 111

GIS 211 ADVANCED APPLICATIONS IN GEOGRAPHIC INFORMATION SYSTEM **4 Credits**

This course includes the technical aspects of GIS functions, algorithms, theory of geographical data structures, and error handling. Emphasis is placed on laboratory experiences requiring manipulation of tools, data, and macros. Students are introduced to terminology and concepts related to ESRI ArcView GIS software (industry standard software). This course is concerned with ways GIS can be used to analyze, integrate, and communicate geographic information. Prerequisite: "C" or better in GIS 111.

GIS 220 GIS IN HOMELAND SECURITY **3 Credits**

This course addresses the compilation, management, and analysis of the many different types of critical geographic elements in our communities. It covers a range of GIS methods for the preparation and implementation of five phases of Homeland Security strategic planning: Risk Assessment, Mitigation, Preparedness, Response, and Recovery. Prerequisite: Approval by Division.

GIS 221 GIS IN LAW ENFORCEMENT **3 Credits**

This course will empower law enforcement personnel to view and analyze pertinent information critical to the safety and well being of a community or region through the use of maps and spatial analysis techniques. Geospatial data relevant to law enforcement and crime analysis are: political and administrative boundaries, natural and manmade landscape features, population demographics, policing features, and calls for service (CFS) locations. Prerequisite: Approval by Division.

GIS 222 GIS IN ECONOMIC DEVELOPMENT **3 Credits**

The use of Geographic Information Systems (GIS) empowers economic developers to view and analyze pertinent information critical to the growth and development of a community or region. This course enables the visualization and study of these community factors through the use of maps and spatial analysis techniques. Prerequisite: Approval by Division.

GIS 298 GIS APPLICATION PROJECTS **3 Credits**

Students use the Project Management Model to discuss and build a campus-wide base map. Selected projects (ANR, PHS, SS) integrate project planning, geographic problem solving tools, software application, project management, data creation, data manipulation, data analysis, reports, and presentations. Prerequisite: "C" or better in GIS 201.

GIS 299 GIS INTERNSHIP **3 Credits**

This course provides the opportunity to interact with a municipal, industrial, or service organization. Emphasis is placed on defining a question, gathering and analyzing pertinent data, and drawing conclusions leading to question resolution. Upon completion of the internship, students should be able to demonstrate their command of GIS applications for problem solving. Prerequisite: "C" or better in GIS 298.

Geology

GEO 101 GEOLOGY I **4 Credits**

This course in physical geology covers the following topics: minerals, rock types, volcanism, weathering, earthquakes, mass wasting, water, and deformation. Laboratory and field work serve to enhance the topics covered in the lectures. Prerequisite: Grade of "C" or better in ENG 096. Laboratory Fee.

GEO 102 GEOLOGY II **4 Credits**

This course is a continuation of GEO 101 focusing on historical geology. Lecture topics include: groundwater, glaciers, geologic time, fossils, evolution, earth history, and life history. Laboratory and field work serve to enhance the topics covered in the lectures. Prerequisite: "C" or better in GEO 101.Laboratory Fee.

Health

HLT 101 HEALTHFUL LIVING **3 Credits**

This course is offered to help students achieve and maintain optimum health and to understand the principles underlying healthful living. Among the topics covered are mental and emotional health, narcotics, human sexuality, and heart disease. Prerequisite: "C" or better in ENG 096/097 or placement.

History

HST 101 WORLD CIVILIZATION I **3 Credits**

This course is the first half of a two-semester sequence. It examines aspects of the major social, political, economic, religious, and intellectual developments of world civilization from earliest times to the seventeenth century.

Emphasis is placed on the ideas and institutions that have shaped the culture of world civilization. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 102 WORLD CIVILIZATION II 3 Credits

World Civilization II is the second half of a two-semester sequence. It examines aspects of the major social, political, economic, and intellectual developments of world civilization from the 17th century to the present. Emphasis is placed on the ideas and institutions that have shaped the society and culture of the modern world. It is recommended that HST 101 be taken before HST 102. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 111 AMERICAN HISTORY I 3 Credits

This course surveys the history of the United States from the pre-Columbian period to the end of Reconstruction (1877). It analyzes the political, economic, social, and intellectual events of Native American history, colonial history, the American Revolution and Constitution, the early national period, expansion, slavery, and the sectional differences leading to the Civil War and Reconstruction. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 112 AMERICAN HISTORY II 3 Credits

This course surveys the history of the United States from 1877 to the present. It examines the political, economic, intellectual, and social forces that shaped modern America. Particular attention is given to developments surrounding the industrialization of the United States, the emergence of the United States as a world power, immigration, economic changes in the twentieth century including periods of prosperity and the depression, and the civil rights and women's rights movements. It is recommended that HST 111 be taken before HST 112. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 121 AFRICAN-AMERICAN HISTORY I 3 Credits

This course is an introduction to the African-American historical experience from the 1440's to 1865, beginning with West African societies and their relations with European explorers and traders. It concludes with the end of slavery in the United States. Students explore the economic, social, political, intellectual, and psychological dynamics of African, Caribbean, and African-American life and the intra- and interracial relations. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 122 AFRICAN-AMERICAN HISTORY II 3 Credits

This course examines the historical presence of Africans in the Americas and the Caribbean from the end of slavery in the 19th century to the present. Students explore the social, political, economic, and psychological dimensions of this experience throughout this global study with focus on United States history and intra- and interracial relations. It is recommended that HST 121 be taken before HST 122. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 131 LATIN AMERICAN HISTORY I 3 Credits

This course surveys the history of Latin America from the pre-Columbian period to about 1830. It focuses on pre-Columbian civilizations, the conquest, the establishment of the Spanish and Portuguese empires, the evolution of a Latin culture, the struggle for independence, and the first attempts at modernization and intellectual independence in Latin America. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 132 LATIN AMERICAN HISTORY II 3 Credits

This course surveys the history of Latin America from about 1850 to the present. Emphasis is on the colonial heritage, the shaping of Latin culture, and the role of neocolonialism. Special attention is given to the Caribbean nations and to present models of social, cultural, and economic development adopted by Latin American nations. It is recommended that HST 131 be taken before HST 132. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 133 CULTURE AND HISTORY OF PUERTO RICO 3 Credits

This course introduces the student to the culture and history of Puerto Rico by tracing the development of the Puerto Rican nation through the Spanish "discovery" and eventual colonization by the United States. The course includes analysis of the contemporary Puerto Rican scene from a social, political, and economic context. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 134 SURVEY OF AFRICAN HISTORY I 3 Credits

This course examines the growth and development of the African continent from prehistoric times to the early nineteenth century. Considered are the geographic divisions of the continent, ancient empires of Africa, the structure, nature, and significance of African tribal life, and development of European exploitation during the nineteenth century. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 135 SURVEY OF AFRICAN HISTORY II 3 Credits

This is a continuation of HST 134. The course analyzes the 19th century European impact on Africa, the socio-economic, political, and ideological reactions of African peoples, the nature of colonialism and neo-colonialism, and national movements of independence. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 136 SURVEY OF ASIAN CIVILIZATION I 3 Credits

This is the first half of a two-part introduction to the political history of China, Japan, and India. Special attention is given to the diverse value systems that developed in this area, with discussions focusing on the basic philosophical assumptions of Confucian, Buddhist, and Hindu beliefs. The student is introduced to the current scholarship in the field and to primary source translations. The first semester deals with China to 1840, Japan to 1868, and India to 1854. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 137 SURVEY OF ASIAN CIVILIZATION II 3 Credits

This is a continuation of HST 221, bringing China, Japan, and India into perspective in the modern world. It is recommended that HST136 be taken before HST137. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 161 MODERN HISTORY I 3 Credits

This is the first semester of a two-semester sequence that examines the social, intellectual, economic, and political problems in European history from 1648 to 1914. Particular attention is given to the role of ideas in historical events and processes and to the place of Europe in the context of world civilizations. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HST 162 MODERN EUROPEAN HISTORY II 3 Credits

This is the second half of a two-semester sequence which explores representative developments in European intellectual and cultural history from the mid-19th century until the 1980s. Emphasis is on France and Germany and on movements and figures that have had an important impact on social and cultural analysis and practice during the last hundred years. It is recommended that HST 161 be taken before HST 162. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

Hospitality Management

HMM 103 INTRODUCTION TO HOSPITALITY MANAGEMENT 3 Credits

This course provides an introduction to the field of hospitality and to the career opportunities and specific skills required for various positions in the hospitality industry. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

HMM 226 SUPERVISORY DEVELOPMENT IN HOSPITALITY MANAGEMENT 3 Credits

This course is designed to build students' knowledge and skills in administration with respect to the hospitality industry. Importance is given to methods of motivating people, delegating duties, handling grievances, discipline, and training of subordinates. Prerequisite: "C" or better in HMM 103.

HMM 256 HOSPITALITY MANAGEMENT LAW 3 Credits

This course is designed to familiarize students with laws pertaining to the operation of hotels and motels. The laws include those on accommodations and discrimination, liability for premises, liability of products sold and supplied, property of guest, checks and credit cards, liens and eviction, employer-employee relationships, and related criminal and civil responsibilities. Prerequisite: "C" or better in HMM 103.

HMM 261 HOSPITALITY HOUSING MANAGEMENT 3 Credits

This course identifies, defines, and describes the fundamentals of housekeeping and laundry management in the hotel-motel industry. It covers proper record keeping, organizing, functions, and responsibilities. Practical skills are developed. The course covers the essentials of proper management including proper planning and implementation, efficiency, and meeting standards with regard to purchasing, hygiene, staffing, and scheduling. Prerequisite: "C" or better in HMM 103.

HMM 263 HOSPITALITY MANAGEMENT FRONT OFFICE PROCEDURES 3 Credits

This course analyzes jobs in the hotel-motel front office including that of cashiering, switchboard operating, auditing and posting machine operations, registering, credit, and checking out of guests. Prerequisite: "C" or better in HMM 103.

HMM 264 FOOD AND BEVERAGE MANAGEMENT 3 Credits

This course examines standards of quality, grades, methods of purchasing, receiving, issuing, storage, inventory, and service of food commodities. Basic principles of beverage management and merchandising as related to the

hospitality industry are studied. The course includes detailed examination of wines and spirits, their origins, manufacturing process, and service. Prerequisite: "C" or better in HMM 103.

Italian

ITL 101 ELEMENTARY ITALIAN I 3 Credits

This is the first half of a year course for students with little or no background in the Italian language. Listening comprehension, speaking, reading, and writing are developed within the limits of basic vocabulary, idioms, and grammar. Pre or Co-requisites: ENG 096 and RDG 096 or ESL 103 (passing grade of "C" or better for each), or placement.

ITL 102 ELEMENTARY ITALIAN II 3 Credits

This course is a continuation of ITL 101. It is designed to expand students' knowledge of vocabulary and grammar to include multiple tenses and uses of the verb. The four language skills: Listening comprehension, speaking, reading, and writing continue to be developed. Prerequisite: "C" or better in ITL 101 or placement.

Legal Assistant Studies

LAS 101 INTRODUCTION TO LEGAL ASSISTANT STUDIES 3 Credits

This course provides an introduction to the legal profession in general, the specific role of legal assistants, and their relationship to other legal professionals. Students explore the American legal system and are introduced to federal and state courts. The course examines in detail the Code of Professional Ethics and other related standards of proper conduct. Pre- or Co-requisites: "C" or better in ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

LAS 102 LEGAL RESEARCH AND WRITING 3 Credits

This course serves as an introduction to the specific research and writing functions and skills necessary to perform as a legal assistant. Students learn to analyze legal problems using locators and other general references in the law library. Students brief cases, write legal memoranda, and use the Shepard's Citators. The course also introduces students to the use of computer-assisted legal research including the use of WESTLAW, Lexis-Nexis, reporter systems, and statutory materials. Prerequisites: "C" or better in both ENG 101and LAS 101.

LAS 105 TORTS 3 Credits

This course covers the principles of tort law, its application in commonly faced situations in law practice, and the role of the legal assistant in the preparation of a tort claim. Emphasis is placed on negligence and the defenses to negligence. Prerequisite: "C" or better in LAS 101.

LAS 106 INTRODUCTION TO LAW 3 Credits

This course offers an introduction to the American legal system, the American system of government, and the fundamental principles of American substantive law including principles of contract law, property law, torts, estate and probate, criminal law, and family law. Professional and ethical guidelines are examined. Pre- or Co-requisites: "C" or better in ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

LAS 107 CONTRACTS 3 Credits

This course provides an introduction to the basic elements of contract law and contract formation and discharge including offer, acceptance, consideration, capacity, intent, discharge, and remedies. Students learn to draft simple clauses and contracts. Pre- or Co-requisites: "C" or better in ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

LAS 108 INTRODUCTION TO NURSE PARALEGALISM 3 Credits

This course provides an introduction to the legal nurse profession. It includes examination of the history and evolution of the legal nurse and the role of the legal nurse in the areas of legal analysis; research and writing; review and analysis of medical records; litigation procedures; medical/legal ethics; and personal injury law. The business and marketing plan of an independent legal nurse practitioner is also examined.

LAS 202 ADVANCED LEGAL RESEARCH AND WRITING 3 Credits

This course is designed to improve and refine legal research and writing skills through a series of assignments which require in-depth research and legal analysis and which are designed to simulate actual assignments given to paralegals in the workplace. Prerequisite: "C" or better in LAS 102.

LAS 203 WILLS AND ESTATE ADMINISTRATION 3 Credits

Students are introduced to the basic provisions of the law of wills and estates. They learn to draft wills and other appropriate instruments. The laws of interstate succession and the law of trusts are also examined. Prerequisite: "C" or better in LAS 101.

LAS 204 BUSINESS ORGANIZATION, GOV'T REGULATION, AND BANKRUPTCY 3 Credits

This course examines in detail the forms of business organizations with emphasis on partnerships and corporations. Employment law and government regulation of businesses

are also studied. Creditors' rights and remedies under state and federal law are also discussed. The course includes comparative review of Chapters 7, 11, and 13 of the bankruptcy code. Prerequisite: "C" or better in LAS 101.

LAS 205 ADMINISTRATIVE LAW 3 Credits

This introductory course in administrative law focuses on the sources and evolution of administrative law, administrative agencies, due process, delegation, rule making, investigation, adjudication, and judicial review. It includes examination of the Administrative Procedures Act and a review of the ethical principles of administrative law. Prerequisite: "C" or better in LAS 101

LAS 206 LITIGATION PROCEDURES 3 Credits

This course examines the rules governing a case as it moves through the courts and basic litigation procedures. Topics covered include state and federal court rules and procedures, client interviews, pleadings, discovery proceedings, trial preparation, and the appellate process. Prerequisite: "C" or better in LAS 101.

LAS 210 PROPERTY TRANSACTIONS 3 Credits

Students are introduced to the law of property as well as to the various types of property transactions and related matters. Topics covered include contracts, mortgages, leases, deeds, title searches, and recording statutes. Students learn to prepare sample real estate closing documents. Prerequisite: "C" or better in LAS 101.

LAS 211 MEDICAL LEGAL ETHICS 3 Credits

This course examines the major ethical codes of the medical and legal professions as set forth by the ABA, AMA, ANA, AALNC, NALA and NFPA. How the principles of these codes apply to contemporary medical and legal issues is also covered, with emphasis on application to the role of the legal nurse.

LAS 220 FAMILY LAW 3 Credits

This course examines substantive and procedural laws and rules pertaining to marriage, dissolution of marriage, child support and custody, separation agreements, adoption, surrogate motherhood, and custody issues. Prerequisite: "C" or better in LAS 101.

LAS 225 LAW OFFICE MANAGEMENT AND FIELD EXPERIENCE 3 Credits

Students are placed in law-related positions to gain practical experience necessary for success as legal assistants. Students are required to establish learning objectives related to their positions to effect the attainment of specific job competencies. Students are required to attend a weekly one-hour session on campus with their professor to go over their work experiences. Prerequisites: "C" or better in LAS 202 and LAS 206.

Manufacturing/Mechanical Engineering Technology

MEC 210 KINEMATICS 3 Credits

Students learn about moving elements used in the design and analysis of basic mechanisms in machines. Topics covered in the course include velocity and acceleration analysis on a plane, design and analysis of four-bar linkages, and cams, gears, and other mechanisms using graphical and analytical methods. Laboratory work is included. Prerequisite: "C" or better in ENR 110. Co-requisite: MTH 114. Laboratory fee.

MET 201 MANUFACTURING PROCESSES AND MATERIALS 3 Credits

This course deals with the principles, methodology, and economics of manufacturing processes with respect to materials, production operations, and quality control. The topics also include tooling, automation, maintenance, industrial organization and management, marketing, and statistics applied to manufacturing problems. Laboratory work is included. Prerequisite: "C" or better in PHY 101 or placement. Laboratory fee.

MET 202 MODERN MANUFACTURING SYSTEMS AND ROBOTICS 4 Credits

This course introduces the concept of computer integrated manufacturing systems through the use of a flexible manufacturing center comprised of a number of workcells. It covers communication between the individual process controllers and a factory control system. Robot operation and programming is introduced. The course also covers the mechanical aspects of material manipulation, various feedback mechanisms, and the integration of robots with other machines in the workcell. The student applies the design concept and techniques to develop a machine tool operation system. Field trips to assembly plants are included. Prerequisite: "C" or better in MET 201 or placement. Laboratory fee.

MET 211 MACHINES AND CONTROLS 3 Credits

Students learn about DC and AC motors and generators and the transmission mechanisms used to drive mechanical power. The course covers transducers for position and velocity. Programmable logic control (PLC) systems are introduced. Laboratory work involves the use of computer integrated manufacturing (CIM) workcell equipment which includes computer numerical control (CNC) machinery, robotics control systems, and vision control systems. Prerequisites: "C" or better in ELC 115 and PHY 101. Co-requisite: MET 215. Laboratory fee.

MET 215 FLUID MECHANICS 3 Credits

This course covers the basic concepts and applications of fluid systems including essentials of fluid properties, fluid statics, Bernouli's theorem, fluid measurements, and losses

due to flow in pipes. Laboratory work deals with models and operational systems as well as exercises involving the underlying principles of hydraulics and pneumatic mechanisms. Prerequisite: "C" or better in PHY 101. Co-requisite: MTH 114. Laboratory fee.

MET 225 COMPUTER NUMERICAL CONTROL 4 Credits

This course introduces computer numerical control (CNC) programming in an applied fashion using lathe, milling, and other machines in the laboratory. The course emphasizes mastery of G and M codes and focuses on the integration of computer aided design (CAD), computer aided manufacturing (CAM), and CNC. The latest release of CAM software packages and modern CNC machines are available and used by the students to complete several hands-on projects. Prerequisite: "C" or better in ENR 103 or placement. Co-requisite: ENR 105. Laboratory fee.

MET 250 MANUFACTURING ENGINEERING TECHNOLOGY PROJECT 1 Credit

The student completes a comprehensive project that includes the various aspects of manufacturing engineering technology. The project must encompass a wide range of topics such as design CAD, production planning, material handling, machining, and quality control and inspection using machine vision. Prerequisites: "C" or better in MET 202 and MET 225.

Massage Therapy

HSC 151 MASSAGE THEORY AND PRACTICE I 4 Credits

This introductory course in massage therapy emphasizes basic massage training using Shiatsu and Swedish massage styles. Lecture topics include: history of massage therapy, theory, benefits, and definitions of techniques. Laboratory work includes hands-on demonstrations and practice sessions to gain proficiency in basic techniques. Prerequisites: MTH 086, ENG 096, and RDG 096, or placement. Co-requisites: BIO 117 or BIO 121, HSC 155. Laboratory fee.

HSC 152 MASSAGE THEORY AND PRACTICE II 2 Credits

This course builds on massage therapy techniques learned in HSC 151. Emphasis is on Swedish massage and the practical integration of other styles. Lecture topics include: Massage therapy equipment options, massage styles and intention (for example, general relaxation and energizing), introducing the new client to massage, and building working relationships with clients. Laboratory work includes demonstrations and practice sessions to learn and refine massage techniques related to upper and lower extremities, abdomen, pelvis, and hip. Prerequisite: HSC 151. Co-requisite: HSC 160. Laboratory fee.

HSC 153 MASSAGE THEORY AND PRACTICE III 4 Credits

This course deals with deep tissue work and medical massage techniques, and refines student knowledge of the human anatomy. Prerequisites: HSC 152, HSC 160, and BIO 117. Co-requisites: BIO 118 and HSC 161. Laboratory fee.

HSC 155 PROFESSIONAL DEVELOPMENT I 2 Credits

Students are oriented to the role of the professional massage therapist within the health care environment and the general community. Topics covered include: ethics, insurance, contraindications, and regulations at the state and national levels. Prerequisites: MTH 086, ENG 096, and RDG 096, or placement.

HSC 156 PROFESSIONAL DEVELOPMENT II 3 Credits

The course provides detailed information on running a massage therapy business. Topics covered include: Self-analysis and career planning, marketing, pricing, opening a practice, legal requirements, client records, and financial management. Prerequisites: HSC 155 and HSC 160. Co-requisite: HSC 161.

HSC 160 MASSAGE THERAPIST PRACTICUM I 2 Credits

During a six-week period, students work in the student clinic at Essex County College applying basic skills in hands-on work with members of the college community. The course meets weekly to discuss the experience and remedy any difficulties encountered. Prerequisites: HSC 151, HSC 155, and BIO 117 (or BIO 121). Co-requisite: HSC 152.

HSC 161 MASSAGE THERAPIST PRACTICUM II 3 Credits

During a 15-week period, students build greater confidence while working in the student clinic at Essex County College and refining their massage style, which now incorporates Shiatsu, Swedish, and deep tissue massage techniques. The course meets weekly for discussion of clinical experiences and difficulties. Prerequisites: HSC 152, HSC 160 and BIO 117 (or BIO 121). Laboratory fee.

HSC 165 SELF-CARE FOR THE MASSAGE THERAPIST 1 Credit

Students learn the techniques for preventing repetitive strain injuries, promoting a balanced lifestyle, and improving overall wellness. The self-care techniques that are presented include joint and muscle specific exercises, breathing techniques for stress relief, and visualization/affirmations for career success. Body mechanics and body awareness activities are emphasized. The relationship of posture and body mechanics to pain and injury is also covered. Prerequisites: MTH 086, ENG 096, and RDG 096, or placement.

Mathematics

Mathematics courses should be taken sequentially each semester until you meet the college core proficiency requirement of "C" or better in MTH 092/093. Upon completion of zero level math courses, you should continue immediately with the math requirements for your major.

MTH 086 INTRODUCTORY ALGEBRA 4.5 Credits

This beginning mathematics course is designed to take students from concrete arithmetic ideas to the more abstract algebraic forms of these ideas. Throughout the course, emphasis is placed on the development of arithmetic and algebraic skills, and the application of these skills and concepts to the solution of practical problems. Topics covered include simplifying arithmetic and algebraic expressions, fractions, decimals, estimations, geometric applications, percents, and signed numbers. Co-requisite: MTH 086T

MTH 086T INTRODUCTORY ALGEBRA (TUTORIAL) 1 Credit

Supplemental instruction of MTH 086 is a combination of self-directed web-based, and individualized "one-on-one" instruction with faculty as well as trained instructional assistants. Emphasis is on reinforcement of classroom lectures as well as training in the use of the College's web-based system for student information, registration, library usage, etc. Co-requisite: MTH 086

MTH 092 ELEMENTARY ALGEBRA 4.5 Credits

In this course, algebraic concepts introduced in MTH 086 are fully developed, and the algebra curriculum is extended to include the following topics: linear equations, graphing, exponents, elementary, quadratic equations, and applications. Prerequisite: "C" or better in MTH 086 or placement. Co-requisite: MTH 092T

MTH 092T ELEMENTARY ALGEBRA (TUTORIAL) 1 Credit

Supplemental instruction of MTH 092 is a combination of self-directed web-based, and individualized "one-on-one" instruction with faculty as well as trained instructional assistants. Emphasis is on reinforcement of classroom lectures as well as training in the use of the College's web-based system for student information, registration, library usage, etc. Co-requisite: MTH 092

MTH 100 INTRODUCTORY COLLEGE MATHEMATICS 4 Credits

Special products, factoring, and other operations on polynomials, rational expressions, and radical expressions are covered. This course also includes solving linear equations, linear systems, literal equations, quadratic equations and graphical solutions, integral and rational exponents, and scientific notation. Students are also introduced to analytic geometry including lines, circles, parabolas, and ellipses. Diverse applications are emphasized throughout the course. Prerequisite: "C" or better in MTH 092 or placement.

MTH 101 STATISTICS AND PROBABILITY I 3 Credits

This course offers an analysis, on an elementary level, of the basic ideas and methods of collecting, tabulating, and representing data. It covers frequency distributions, histograms and frequency polygons, measurers of central tendency and variability, percentiles, Z-scores and standard scores, elementary probability, normal and binomial distributions, and, if time permits, an introduction to statistical inference. Prerequisite: "C" or better in MTH 092 or placement.

MTH 102 STATISTICS AND PROBABILITY II 3 Credits

This is a continuation of MTH 101. Emphasis is placed on sampling theory and hypothesis testing, the t-distribution and the chi-square distribution, regression, correlation, linear prediction, analysis of variance, and non-parametric tests. Prerequisite: "C" or better in MTH 101.

MTH 103 FUNDAMENTAL CONCEPTS OF MODERN MATHEMATICS I 3 Credits

This is a survey course that considers mathematics as a factor in our culture. It is intended to impart an appreciation of the impact of mathematics on our society. The course is designed primarily for students in humanities and elementary education. Topics covered include set theory, symbolic logic, mathematical reasoning, number theory, and mathematical system. Prerequisite: "C" or better in MTH 092 or placement.

MTH 104 FUNDAMENTAL CONCEPTS OF MODERN MATHEMATICS II 3 Credits

This is a continuation of MTH 103. Topics covered include symbolic logic, the algebra of sets, probability, and selected topics from plane and solid geometry. Prerequisite: "C" or better in MTH 103.

MTH 109 TECHNICAL MATHEMATICS 3 Credits

This course covers topics selected from arithmetic, algebra, geometry, and trigonometry with applications. This course is offered to meet the needs of specific disciplines, e.g., Radiologic Technology, Ophthalmic Dispensing, and Chemical Technology. Prerequisite: "C" or better in MTH 092 or placement.

MTH 113 COLLEGE ALGEBRA WITH TRIGONOMETRY 4 Credits

This course covers topics from algebra and trigonometry at a level and emphasis appropriate for applied technology majors who will continue on with a semester or two of applied calculus. Topics covered include functions and their

graphs, angles and triangles, systems of linear equations with determinants, trigonometric functions, equations and identities, exponential and logarithmic functions, and brief review of conic sections. Prerequisite: "C" or better in MTH 100 or placement.

MTH 114 UNIFIED CALCULUS I 3 Credits

This course in traditional calculus of one variable is designed for students who need applications with less of theory. Topics covered include functions, graphs, tangents, velocity, limits, the derivative, continuity, techniques of differentiation, antiderivatives, the definite integral, applications, and some techniques of integration. Prerequisite: "C" or better in MTH 113 or placement.

MTH 116 MEDICAL MATHEMATICAL CALCULATIONS 1 Credit

This course reviews basic mathematical calculations and conversions and emphasizes how these techniques are used in the administration of medications. Prerequisite: "C" or better in MTH 092 or placement. Co-requisite: NRS 107.

MTH 117 MATHEMATICS FOR MANAGEMENT SCIENCE 3 Credits

This course reviews linear functions and inequalities, formulating linear equations and inequalities in n-space, and linear programming techniques in one and two space using algebraic and graphical methods. It offers introduction to three space and associated algebraic, graphical, and linear programming techniques. Basic matrix operations with applications, the use of inverse and augmented matrices in solving a system of linear equations, the simplex method, graphs and networks, mathematics of finance, introductory probability, and decision strategies are also covered. Prerequisite: "C" or better in MTH 100 or placement.

MTH 119 PRECALCULUS I 4 Credits

Topics covered include absolute value and inequalities; relations and functions; polynomials and rational functions and their graphs, determinants, and matrices; sequences, series, and induction; the line and the ellipse. The course is designed for students who plan to take MTH 121. A graphics calculator may be required. Prerequisite: "C" or better in MTH 100 or placement.

MTH 120 PRECALCULUS II 4 Credits

This course, along with MTH 119, prepares students for a rigorous treatment of calculus. Topics covered include circular and trigonometric functions; trigonometric identities and equations; vectors and complex numbers; theory of equations; log and exponential functions; polar coordinates; sequences and series; parabolas, hyperbolas, and translation. A graphics calculator may be required. Prerequisite: "C" or better in MTH 119 or placement.

MTH 121 CALCULUS WITH ANALYTIC GEOMETRY I 4 Credits

This course covers the theory of limits, continuity, differentiation, maximal-minimals theory, related rates, mean value theorem, the fundamental theorem, integration, and applications of the integral. A graphics calculator may be required. Prerequisite: "C" or better in MTH 120 or placement.

MTH 122 CALCULUS WITH ANALYTIC GEOMETRY II 4 Credits

This is a continuation of MTH 121. Topics offered include volumes, surface areas, arc lengths, force, work, and other applications of the definite integral: Derivatives and integrals of logarithmic, trigonometric, and hyperbolic functions and their inverses, techniques of integration, brief review of conic sections, and improper integrals. Prerequisite: "C" or better in MTH 121 or placement.

MTH 127 BASIC CALCULUS 4 Credits

This course follows an intuitive approach to calculus and it includes differential and integral calculus, and multivariable calculus. Emphasis is on applications of calculus to business, economics, management science, and social science. Prerequisite: "C" or better in MTH 100 or placement.

MTH 136 DISCRETE MATHEMATICS 3 Credits

This is a course in finite mathematical structures relevant to the computer and information sciences. Topics offered include logic and proofs, sets, combinatorics, recursion, relations, functions, graphs and digraphs, trees, finite state machines, Boolean algebra, and an overview of computability and formal language theory. Prerequisite: "C" or better in MTH 113 or MTH 119.

MTH 141 MATHEMATICAL STATISTICS 3 Credits

This is a course is in the mathematical theory of statistics. Topics offered include counting techniques and mathematical probability, random variables and probability distributions, applications to sampling theory, hypothesis testing, and correlation and regression. Prerequisite: "C" or better in MTH 114 or MTH 121, or placement.

MTH 213 UNIFIED CALCULUS II 3 Credits

This is a continuation of MTH 114. Topics offered include the fundamental theorem of integral calculus; derivatives and integrals of trigonometric, exponential, and logarithmic functions; and further techniques and applications of integration, polar coordinates, and elementary differential equations. Prerequisite: "C" or better in MTH 114 or placement.

MTH 221 CALCULUS WITH ANALYTIC GEOMETRY III **4 Credits**

This course is a continuation of MTH 122. The main topics considered are polar coordinates, solid analytic geometry, parametric equations, vectors, functions of more than one variable, partial derivatives, multiple integrals, and infinite sequences and series. Taylor's series with remainder and MacLaurin's series are also discussed. Prerequisite: "C" or better in MTH 122 or placement.

MTH 222 DIFFERENTIAL EQUATIONS **4 Credits**

This course covers methods for solving ordinary differential equations together with physical and geometrical applications. General methods include undetermined coefficients and variations of parameters. Laplace transforms and series solutions are also covered. Prerequisite: "C" or better in MTH 221 or placement.

MTH 239 INTRODUCTION TO LINEAR ALGEBRA **3 Credits**

This course introduces the theory of linear operators as related to systems of linear equations, vector spaces, inner product spaces, and related topics such as determinants and eigenvalues. It also covers applications to geometry and quadratic forms. Prerequisite: "C" or better in MTH 121.

Medical Terminology

HSC 109 INTRODUCTION TO MEDICAL TERMINOLOGY **3 Credits**

A survey of medical science designed to foster mastery of medical terminology to ensure its accurate and appropriate use in the allied health fields. Medical vocabulary is emphasized and a general discussion of human anatomy and physiology is provided. Disease, diagnosis and treatment procedures are also covered. Pre-requisites: Eng 096 and RDG 096, or ESL 105/106 or placement.

Meteorology

PHY 114 METEOROLOGY **4 Credits**

This course covers the composition and structure of the atmosphere, the flows of energy to, from, and through the atmosphere, and the resulting motions produced from small to planetary scales. The physical principles of atmospheric phenomena are stressed to provide an understanding of weather's impact on humans, particularly the impact of severe weather. Methods of analysis are developed through the study of current weather as meteorological data are delivered via the Internet. Laboratory fee.

Music

MUS 100 MUSIC APPRECIATION **3 Credits**

This course is designed to develop students' knowledge and appreciation of Western classical music. It also considers certain world music and its influence on the Western tradition. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

MUS 105 MUSICIANSHIP I **2 Credits**

This course in music theory, harmony, counterpoint, ear training, sight singing, and composition is designed for the music major. It is the first in the musicianship series (Musicianship I, II, III and IV).

MUS 106 MUSICIANSHIP II **2 Credits**

This is a continuation of MUS 105. Prerequisite: "C" or better in MUS 105 or placement.

MUS 108 MUSIC HISTORY **3 Credits**

This survey course on musical literature examines the relationship of music to other arts historically, from the romantic period to contemporary music. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

MUS 109 JAZZ APPRECIATION **3 Credits**

This course is an introduction to America's classical music and jazz. Importance is given to listening techniques, terminology, style characteristics, and the history of jazz and African-American music. This course is designed for both music and non-music majors. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

MUS 111 MIDI MUSIC COMPOSITION I **3 Credits**

This course is designed to create a technical and conceptual foundation for further studies in electronic music. Students will learn and demonstrate basic compositional techniques, including form, melody, rhythm, and harmony. Also, the student will demonstrate the ability to use computers and software to create and perform music. Emphasis will be on developing skills appropriate to the beginning student for the purpose of creative and technical expression. Prerequisite: "C" or better in MUS 105. Laboratory fee.

MUS 115 EAR TRAINING AND SIGHT SINGING I **3 Credits**

This course is designed to develop music reading and related aural skills through practice and application of sight reading techniques and ear training procedures.

MUS 116 EAR TRAINING AND SIGHT SINGING II **3 Credits**

This course is a continuation of MUS 115. Prerequisite: "C" or better in MUS 115 or placement.

MUS 117 BLACK CONTRIBUTIONS TO MUSIC **3 Credits**

This course examines in detail the unique and essential elements that characterize Black music in both vocal and instrumental styles, giving emphasis to its historical development and role as a major force in shaping America's musical taste. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

MUS 118 SOUND DESIGN I **3 Credits**

This course introduces students to non-linear digital audio recording, editing, and mixing for music and sound production. It is designed for musicians and media artists who want to learn the Pro Tools feature set and incorporate its use into their music and media production activities. Prerequisite: "C" or better in MUS 105. Laboratory fee.

MUS 121 VOICE CLASS I **2 Credits**

This course is designed to train and develop the individual voice and ear for solo work as well as for ensemble singing. Areas of study include breathing, tone production, diction, general musicianship, and interpretation. Four to six credits in voice class are recommended for students planning to major in music education.

MUS 122 VOICE CLASS II **2 Credits**

This course is a continuation of MUS 121. Prerequisite: "C" or better in MUS 121.

MUS 131 KEYBOARD CLASS I **2 Credits**

Music students apply their knowledge of music theory to the keyboard in class, and develop sufficient technique and facility to classify piano as their minor requirement.

MUS 132 KEYBOARD CLASS II **2 Credits**

This course is a continuation of MUS 131. Prerequisite: "C" or better in MUS 131 or placement.

MUS 141 COLLEGE CHOIR I **1 Credit**

This course is designed for students who possess vocal and technical abilities. The choir represents the College and meets during the school day to sing both sacred and secular vocal pieces, accompanied and a cappella.

MUS 142 COLLEGE CHOIR II **1 Credit**

This course is a continuation of MUS 141. Prerequisite: "C" or better in MUS 141 or placement.

MUS 153 INSTRUMENTAL WORKSHOP I **1 Credit**

Practical experience in solo and ensemble instrumental performance is offered. The required performance level for entry into this course is left to the discretion of the instructor.

MUS 154 INSTRUMENTAL WORKSHOP II **1 Credit**

This course is a continuation of MUS 153. Prerequisite: "C" or better in MUS 153.

MUS 205 MUSICIANSHIP III **2 Credits**

This course is a continuation of MUS 106. Prerequisite: "C" or better in MUS 106 or placement.

MUS 206 MUSICIANSHIP IV **2 Credits**

This course is a continuation of MUS 205. Prerequisite: "C" or better in MUS 205 or placement.

MUS 209 CONTEMPORARY ARRANGEMENT AND COMPOSITION **3 Credits**

The student is exposed to the techniques involved in providing musical settings for any size performance group, and encouraged to exercise his/her creative ability through the use of technical tools. Prerequisite: "C" or better in MUS 106 or placement.

MUS 221 VOICE CLASS III **2 Credits**

This course is a continuation of MUS 122. Prerequisite: "C" or better in MUS 122.

MUS 222 VOICE CLASS IV **2 Credits**

This course is a continuation of MUS 221. Prerequisite: "C" or better in MUS 221.

MUS 231 KEYBOARD CLASS III **2 Credits**

This course is a continuation of MUS 132. Prerequisite: "C" or better in MUS 132.

MUS 232 KEYBOARD CLASS IV **2 Credits**

This course is a continuation of MUS 231. Prerequisite: "C" or better in MUS 231.

MUS 241 COLLEGE CHOIR III **1 Credit**

This course is a continuation of MUS 142. Prerequisite: "C" or better in MUS 142.

MUS 242 COLLEGE CHOIR IV **1 Credit**

This course is a continuation of MUS 241. Prerequisite: "C" or better in MUS 241.

MUS 253 INSTRUMENTAL WORKSHOP III **1 Credit**

This course is a continuation of MUS 154. Prerequisite: "C" or better in MUS 154.

MUS 254 INSTRUMENTAL WORKSHOP IV 1 Credit

This course is a continuation of MUS 253. Prerequisite: "C" or better in MUS 253.

MUS 261-269 K,S,B,W,P,G, V,C, or D Applied Performance (Instrument Identified by Letter) Areas I-IX
1 or 2 credits per course

These are private music instruction courses in a student's chosen performance area of voice or instrument. The chosen area is identified by a letter representing voice or instrument as follows:
K (Keyboard: Piano, Organ, and Harpsichord)
S (String Instruments: violin, viola, cello, string bass)
B (Bass Instruments: trumpet, trombone, tuba, French horn, etc.)
W (Woodwind: saxophone, clarinet, oboe, etc.)
P (Percussion: drums, all percussion family)
G (Guitar: acoustic, electric, bass)
V (Voice)
C (Composition)
D (Drama)

The courses will be either one credit for one half hour private instruction per semester week or two credits for one hour private instruction per semester week. Approval by Music Coordinator is required. Laboratory fee.

New Media Technology

NMT 101 INTERACTIVE MULTIMEDIA DESIGN 4 credits

This course serves as an introduction to New Media Technology. The student will develop a foundation in the creation of such diverse technologies as animation, DVD and CD creation, Flash animation, QuickTime movie creation, audio and video editing, and embedding and media for hand held devices. Students will work in teams in the creation of different and diversified tasks necessary to create a multimedia design project. This course requires lab time. Laboratory fee.

NMT 201 FLASH AND ACTIONSCRIPTING 4 credits

This course introduces students to animation technology using Flash software. Students will develop original Flash presentations. The process includes creating the storyboard, implementing Actionscripting, and creating their final Flash movie. This course requires lab time. Pre-requisite: "C" or better in ART171 Cyberspace Graphics and Beginning Animation. Laboratory fee.

NMT 202 GAME DESIGN AND APPLICATION 3 credits

This course introduces the student to the principles of game design and its many diverse uses. The game design process includes imagining the game, defining the way the game will work, describing the elements that make up the game, and transmitting the information to the team who will build the game. The student will learn to create interactive games for different platforms including storyboarding, character development, interactivity, and introductory scripting. Pre-requisite: "C" or better in NMT173 Flash and Actionscripting or ART171 Cyberspace Graphics and Beginning animation. Laboratory fee.

Nursing

NUR 100 NURSING SUCCESS SEMINAR 2 Credits

This is an introductory course to prepare the nursing student for academic and personal success in the nursing program. The course is designed to teach the nursing student to develop a plan of study and strategies for success. Student management of finances, resources, family issues, and academic issues will be discussed. Students will learn how to utilize college resources to facilitate their success.

NUR 101 FOUNDATIONS OF NURSING 3 Credits

This course will provide nursing students with an introduction into the roles and responsibilities of the professional nurse. The historical development of nursing and the current trends in the nursing profession will be explored. The legal and ethical responsibilities of the professional nurse will be discussed as it applies to the daily practice of nursing. The course covers nursing process, critical thinking skills, and preparatory skills for clinical, laboratory, tutorial, and theoretical assignments. Students will be required to participate in 20 hours of volunteer service in a health care facility.

PNR 101 NURSING ROLE AND CONCEPT 4 Credits

This course focuses on the development of the role of the Practical Nurse in relation to other professionals within the current health care delivery system. Legal and ethical obligations of the profession are introduced. Maslow's Hierarchy of Needs and Erikson's psychosocial theory of development are presented as the framework for nurse-client interactions. The integration of critical thinking principles into the nursing process is a key focus. Concepts that influence nursing practice, such as cultural diversity, interpersonal communication skills, and client teaching/learning needs are also discussed. The student will begin to develop proficiency in the calculation of drug dosages and the use of medical terminology. Prerequisites: 2.5 G.P.A. or better in ENG 101, BIOI 121, and PSY 101. Co-requisite: BIO 122.

PNR 102 NURSING FUNDAMENTALS 6 Credits

This course focuses on the nursing concepts and technical skills that provide the essential foundation for practice. Using the framework of basic human needs, principles of client hygiene, assessment, safety, comfort, mobility,

infection control, elimination, and nutrition are discussed. Students begin to apply the basic elements of the nursing process and critical thinking in accordance with the role of the Practical Nurse. Emphasis is on safe care of the adult client whose ability to meet basic human needs has been compromised. Theoretical nursing concepts are applied and clinical skills reinforced in the laboratory and long-term, and/or acute care settings. Prerequisites: "C" or better in PNR 101 and BIO 122. Laboratory fee.

PNR 103 ADULT HEALTH I **7 Credits**

This course builds upon the foundations of the previous courses. Students are introduced to selected medical-surgical disorders and their influence on the adult client's attainment of basic needs. Aspects of therapeutic interventions, such as medications, diet, exercise, surgery and treatments, and the role of the practical nurse are presented. Emphasis is placed on the application of the nursing process and the integration of Maslow's Hierarchy of Needs framework and Erikson's developmental theory. Students refine previously learned skills and practice new skills that correspond with the client's therapeutic regimen. The focus remains on the adult client, with emphasis on the beginning recognition of teaching/learning and discharge needs for the client and his/her support system. Clinical experiences take place in acute, subacute, and/or community settings. This is a half-semester course. Prerequisites: "C" or better in PNR 102. Co-requisites: PNR 104. Laboratory fee.

PNR 104 MENTAL HEALTH **3 Credits**

This course explores the role of the Practical Nurse as a member of a health care team caring for clients who have mental health alterations. Students will apply the nursing process, using critical thinking and psychosocial theory, to assist clients to meet their basic human needs. Therapeutic communication, current strategies in mental health care, and the specific legal and ethical guidelines associated with this area are discussed. Clinical experiences focus on nurse-client communication in an inpatient and/or community mental health setting. This is a half-semester course. Prerequisite: "C" or better in PNR 102. Co-requisites: PNR 103.

PNR 105 ADULT HEALTH II **6 Credits**

This course expands upon Adult Health I and continues with the role of the Practical Nurse in assisting adult clients with medical-surgical disorders. Current medical and non-traditional therapies will be discussed. Emphasis is placed on the recognition of the client's inability to meet basic needs, selection of appropriate nursing interventions, evaluation of outcomes of care, documentation, and communication with the members of the health care team. Students will demonstrate the use of critical thinking in the adaptation of the nursing process with clients from diverse multicultural backgrounds. Students will implement nursing techniques in the acute care clinical setting. This is a half-semester course. Prerequisites: "C" or better in PNR 103 & PNR 104. Co-requisites: PNR 106. Laboratory fee.

PNR 106 MATERNAL CHILD HEALTH **4 Credits**

This course focuses upon the role of the Practical Nurse in caring for clients and families experiencing childbirth. The primary emphasis is on maternal and child attainment of basic human needs during pregnancy, labor and delivery, and the postpartum period. Expected outcomes and alterations in childbearing are discussed along with medical and nursing interventions. Interpersonal communication skills, legal and ethical considerations, cultural beliefs and practices, and a family-centered approach are integrated throughout. Students will apply the nursing process with childbearing families in inpatient and/or ambulatory settings. This is a half-semester course. Prerequisites: "C" or better in PNR 103 and PNR 104. Co-requisites: PNR 105. Laboratory fee.

PNR 107 PEDIATRIC HEALTH **4 Credits**

This course explores the role of the Practical Nurse in assisting pediatric clients experiencing health alterations to meet their basic human needs. Erikson's psychosocial theory is applied in the developmental assessment of clients from infancy through adolescence. The responses of children and their family to illness and hospitalization are discussed. Students are expected to apply theoretical knowledge and proficient clinical skills in interactions with pediatric clients. Recognition and prioritization of client needs are demonstrated. Clinical experiences will be arranged in inpatient, community, and/or well child settings. Prerequisites: "C" or better in PNR 105 & PNR 106. Laboratory fee.

PNR 108 ROLE/TRANSITION REVIEW **2 Credits**

This course focuses on the preparation of the student for the NCLEX-PN licensure exam and the assumption of a beginning Practical Nursing role, including legal and ethical responsibilities and participation in continuing education and nursing organizations. Development of personal and professional management and leadership skills are discussed. Employment skills, such as resume writing, job selection, and interview strategies, are also covered. Emphasis is on assessment of needs in relation to test-taking and nursing content knowledge. A comprehensive examination will be given to determine student status. Prerequisite: "C" or better in PNR 107. Laboratory fee.

NRS 106 LPN MOBILITY I **2 Credits**

This is the first course of the LPN Articulation Option. It includes the essential concepts that an LPN needs to bridge the gap in the role of LPN to RN. It is designed to provide a foundation for all subsequent nursing courses. Students review basic concepts of the nursing profession, the role of the provider of care, and the basic physiologic and higher level needs of man. Classroom activities are designed to help students assess and diagnose basic needs, and assist in meeting those needs in elderly adults who are healthy or who experience simple health alterations. Students are tested in the classroom to determine

their proficiency. The goal of this course is to prepare the LPN for a smooth transition into professional nursing. Prerequisites: "C" or better in BIO 121, CHM 101 or CHM 103, and ENG 101. Co-requisite: MTH 116. Laboratory fee.

NRS 107 NURSING I 6 Credits

This course is designed to provide a foundation for all subsequent nursing courses. Students are introduced to basic concepts of the nursing profession, the role of provider of care, and the basic physiologic and higher level needs of man. Laboratory and clinical activities are designed to help students to assess and diagnose basic needs and assist in meeting those needs in elderly adults who are healthy or who experience simple health alterations. Pre- or Co-requisites: BIO 121, CHM 101, and ENG 101 (passing grade of "C" or better for each). Co-requisite: MTH 116. Laboratory fee.

NRS 108 NURSING II 8 Credits

Students render care to clients who have commonly occurring health alterations generally affecting middle adult populations. Laboratory and clinical activities create a construct which assists students to develop the role of provider of care. Assessment skills and nursing diagnoses are expanded, with a focus on planning and intervention to meet the physiologic, psychosocial, and safety needs of clients. Prerequisites: "C" or better in NRS 107 and MTH 116. Co-requisite: BIO 122. Laboratory fee.

NRS 109 REVIEW OF LEARNING SKILLS AND NURSING CONCEPTS 2.5 Credits

This is a course for students who are waiting for readmission into the Nursing Program. It involves re-examination of selected professional concepts which were taught in the previous nursing course. Study skills, critical thinking, and test-taking strategies are discussed. The goal of this course is to prepare the student personally and academically to successfully complete the Nursing Program. Prerequisite: Previous enrollment in a nursing course and awaiting readmission to the Nursing Program.

NRS 111 LPN MOBILITY II 6 Credits

This is the second course in the LPN Articulation Option following NRS 106. Students care for clients who have commonly occurring health alterations generally affecting middle adult populations. Laboratory and clinical activities create a construct which assists the LPN to advance in the role of provider of care. Assessment and nursing diagnoses are expanded with a focus on planning and intervention to meet the physiologic, safety, and psychosocial needs of clients. Credit is given for previous knowledge. Upon successful completion of this course, an additional 6 credits will be given to students who complete NRS 106 and NRS 111. Prerequisites: "C" or better in NRS 106, ENG 101, BIO 121, and CHM 101 or 103. Co-requisite: BIO 122. Laboratory fee.

NRS 231 MATERNAL HEALTH NURSING (For Graduates of Foreign Schools of Nursing) 4 Credits

Focus is on the emotional, social, and physiological tasks and needs of the family within the childbearing years. This includes the relationships of the individuals; the reproductive growth and development cycles through the neonate; maintenance of health before, during, and after the birth of the child; and prevention of common health problems during pregnancy. Complications during childbearing as well as women's health are also considered. Nursing care involves the observation, assessment, planning, and evaluation skills as they apply to rendering safe, professional nursing care during pregnancy, labor and delivery, the postpartum, and neonatal periods. Special admission requirements apply. See the Chairperson, Department of Nursing. Laboratory fee.

NRS 233 NURSING III 9 Credits

Students render care to clients who have complex health alterations generally affecting young adult populations. The focus is on further development of the role of provider of care. Students continue to develop communication skills and the ability to assist clients to meet higher level needs. Laboratory and clinical activities assist students to assess, diagnose, plan, and evaluate nursing care, and to refine previously learned nursing skills to render care to clients with complex health alterations. Prerequisites: "C" or better in NRS 106 or NRS 107, NRS 108 or NRS 111, BIO 122, CHM 101, MTH 116, and PSY 101. Co-requisite: BIO 211. Laboratory fee.

NRS 234 NURSING IV 9 Credits

Students render care to clients with potential and/or actual alterations associated with the childbearing/rearing developmental phases. The course enables students to further refine their expertise as providers of care and to develop skills associated with being managers of care. Students are required to apply to the nursing process an integration of their knowledge of basic and developmental needs and previously learned health alterations. Laboratory and clinical activities focus on assessment, planning, implementation, and evaluation of care of clients within the context of family or significant group, and the application of complex nursing skills. Prerequisites: "C" or better in NRS 106 or NRS 107, NRS 108 or NRS 111, NRS 233, BIO 122, CHM 101, MTH 116, and BIO 211. Co-requisite: NRS 235. Laboratory fee.

NRS 235 NURSING SEMINAR 2 Credits

This is a seminar course where students integrate all nursing concepts. The focus is on analysis and application of current professional trends and issues. The role of mem-

ber of the profession is explored and operationalized. Laboratory exercises are designed to develop computer assisted test-taking skills with respect to all areas of nursing practice. Prerequisites: "C" or better in NRS 106 or NRS 107, NRS 108 or NRS 111, and NRS 233. Co-requisite: NRS 234. Laboratory fee.

NRS 291 PSYCHIATRIC-MENTAL HEALTH NURSING (For graduates of Foreign Schools of Nursing) 4.5 Credits

This course is for graduates of foreign schools of nursing to assist them in fulfilling the Psychiatric/Mental Health requirements for CGFNS certification. The course focuses on the use of the nursing process in caring for young adults who are experiencing threats to their potential for self-actualization. The nursing process is developed as a tool with emphasis placed on shifting nursing care priorities and evaluating care. Nursing care involves the observation, assessment, planning, and evaluation skills as they apply to rendering safe, professional nursing to clients with alterations in their mental health. Special admission requirements apply. See the Chairperson, Department of Nursing. Laboratory fee.

Nutrition

HSC 101 INTRODUCTION TO NUTRITION 3 Credits

This basic course in nutrition and diet therapy examines the principles of nutrition and their application in daily dietary practice. The classifications of nutrients in food, their sources, and their impact in normal or deficient intake are explored in detail. The course examines how diet and nutrition relate to the pathologic and pathophysiologic processes of the body, and also the benefit of food to emotional health. The concepts of digestion, absorption, transport, and elimination are reviewed. Energy obtained from food that supports the ongoing activities of body tissue and the mechanisms used to maintain energy balance are examined. Prerequisite: "C" or better in BIO 100 or higher or in CHM 100 or higher.

HSC 102 NUTRITION THROUGH THE LIFE CYCLE 3 Credits

This course explores the role and the effect of nutrition and diet on preconception, pregnancy, lactation, infancy, childhood, adolescence, adulthood, and aging. It examines characteristics of normal growth and development, nutrition assessment, nutrition needs, and the common deficiencies seen in each phase of the life span. Students gain practice in menu planning for each stage of life. Prerequisite: "C" or better in HSC 101.

Office Systems Technology

OST 100 MICROCOMPUTER KEYBOARDING 1 Credit

This course is designed to assist the student in developing alpha-numeric keyboarding proficiency. Emphasis is on developing speed and accuracy in using the computer for keyboarding. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Laboratory fee.

OST 104 INTRODUCTION TO WORD PROCESSING 1 Credit

This course introduces computer word processing (Microsoft Word for Windows) concepts and provides students hands-on experience in creating, formatting, editing, saving, printing, and retrieving documents. Students learn to prepare documents such as personal and business letters, job application letters, resumes, and multiple page reports with footnotes. Prerequisite: "C" or better in OST 100 or CIS 107 or ENG 088. Laboratory fee.

OST 105 MICROCOMPUTER KEYBOARDING AND DOCUMENT PROCESSING 3 Credits

This course is designed to help students develop a mastery of the microcomputer keyboard using the touch method. Students learn correct keyboarding techniques and formatting for producing manuscripts, simple tables, and personal and business letters. (This course is not a substitute for OST 106. Students in certificate and degree programs in Word Processing, Office Careers, and Office Systems Technology must take OST 106.) Prerequisite: "C" or better in OST 100 or OST 104. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Laboratory fee.

OST 106 KEYBOARDING AND FORMATTING I 4 Credits

This course is designed for students with prior keyboarding background. It expands their knowledge and skills in document formatting. The focus is on developing vocational competency; students learn to use computers as a business tool for preparing a wide range of typical business correspondence, tables, reports, and forms from unarranged and rough-draft sources. Emphasis is also on developing proofreading competency. Prerequisite: "C" or better in OST 100 or OST 104 or OST 105. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Laboratory fee.

OST 107 KEYBOARDING AND FORMATTING II 3 Credits

This course reviews the basic techniques of computer/keyboarding and formatting. Focus is on developing speed and accuracy in keyboarding and on using computers to prepare correspondence, complex tables, reports,

manuscripts, technical reports, and business forms. Emphasis is also on developing proofreading competency. Prerequisite: "C" or better in OST 106. Laboratory fee.

OST 121 BUSINESS COMMUNICATION 3 Credits

This course reviews in a practical, step-by-step manner the major areas of grammar and language arts skills, including spelling and business terminology. Students are presented rules, examples, and intensive practice materials relating to improvement of communication skills at the business and professional level. Co-requisite: OST 106. Pre- or Co-requisites: "C" or better in ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement. Laboratory fee.

OST 210 OFFICE SYSTEMS MANAGEMENT 3 Credits

This course provides a comprehensive coverage of supervisory management, particularly as it applies to the first-line supervisor in a high-tech office environment. Emphasis is on job planning and controlling the work; making effective decisions; supervising personnel; ensuring employee safety and health; unions, grievances, and discipline; improving productivity and cost control; supervising oneself; managing time and stress; and developing a career plan. Prerequisites: "C" or better in OST 107 and OST 121.

OST 215 SPECIALIZED MACHINE TRANSCRIPTION 3 Credits

This course is designed to develop knowledge and skills in processing pre-recorded communications using word processing software. Seven elements of transcription are reviewed and emphasized: Knowledge of equipment, listening, professional development, proofreading, keyboarding, formatting techniques, and English grammar and usage. Legal and medical terminology use is also covered. A variety of documents that contain such terminology are processed from pre-recorded tapes. Prerequisites: "C" or better in OST 106, OST 121, and OST 250. Laboratory fee.

OST 220 MEDICAL OFFICE PROCEDURES 3 Credits

This course provides students interested in working in a medical office the opportunity to integrate previous skills in keyboarding, word processing, transcription, and communications as they apply to work in medical facilities. The course also covers procedures in filing; preparation of medical forms, financial records and reports, and case histories; ordering supplies; and duties of the receptionist, secretary, and other medical office personnel. Prerequisite: "C" or better in ENG 101, OST 106, and HSC 109. Laboratory fee.

OST 230 LEGAL OFFICE PROCEDURES 3 Credits

This course introduces students to the highly specialized skills and knowledge necessary for legal office work. Topics covered include: Legal terminology, ethics, financial record keeping, filing procedures, and current legal office procedures. Students also learn to use computers to process legal documents and correspondence. Prerequisites: "C" or better in OST 107, OST 121, and OST 250. Laboratory fee.

OST 250 WORD/INFORMATION PROCESSING APPLICATIONS I 4 Credits

This course provides hands-on experience in the operation of computers. Students learn to use state-of-the-art word processing software, such as Microsoft Word. They learn to carry out such tasks as booting the equipment, saving, editing and retrieving, list/merging, sorting, and other specialized machine operations. Documents that students learn to process are representative of those prepared in typical business offices. Emphasis is also placed on the related areas of proofreading and copy editing. Prerequisites: "C" or better in OST 106, OST 121, and ENG 101. Laboratory fee.

OST 251 WORD/INFORMATION PROCESSING APPLICATIONS II 3 Credits

This course is a continuation of OST 250. Students learn more advanced word processing functions and are also introduced to desktop publishing. Proofreading and editing skills are further developed. Prerequisite: "C" or better in OST 107 and OST 250. Laboratory fee.

OST 290 OST INTERNSHIP 3 Credits

This course provides students the opportunity to gain practical work experience related to an occupational specialization or program. Part-time employment opportunities in banks, insurance companies, law firms, government agencies, and other offices enable students to apply skills learned in the classroom to an actual work situation. Supervision and guidance are offered by the training sponsor and the program coordinator. Students attend a seminar once a week to integrate and discuss the work experience and the specialized program. This course should be taken only in the last semester of the certificate or degree program. Divisional permission is required the semester before desired enrollment in this course. Prerequisite: All OST courses to this level.

Philosophy

PHI 101 INTRODUCTION TO PROBLEMS IN PHILOSOPHY 3 Credits

This course provides an introduction to the basic prob-

lems of philosophy, such as metaphysics, epistemology, ethics, aesthetics, and others. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

Physical Education

PHE 101 INTRODUCTION TO PHYSICAL EDUCATION **2 Credits**

This course provides an introduction and professional orientation to the field of physical education. The role of the instructor of physical education in schools, industry, and community agencies is emphasized. The scientific foundations of physical activity and career opportunities in physical education are also examined. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

PHE 107 BEGINNER AQUATICS **1 Credit**

Students are introduced to basic water safety skills to enable them to be reasonably safe while in, on, or about the water. Prerequisite: Permission of instructor.

PHE 115 FIRST AID AND SAFETY **2 Credits**

This course provides an introduction to preventive measures and first aid practices and procedures used in the event of accidents or illness. The course emphasizes principles and procedures that form the basis of safety education. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

PHE 117 INTERMEDIATE AQUATICS **1 Credit**

This course is a continuation of PHE 107 and is designed to develop advanced skills in swimming and personal safety. Prerequisite: "C" or better in PHE 107.

PHE 119 CONCEPTS IN PHYSICAL EDUCATION **2 Credits**

Through a series of lectures and laboratories, various aspects of health and physical fitness are explored. In addition to mastering selected concepts concerning health and physical fitness, each student develops, through self-testing laboratories, his/her own physical fitness profile. Each student assesses his/her fitness level and designs a program of exercise to achieve and/or maintain fitness. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

PHE 151 SOCCER/SPEEDBALL **1 Credit**

This course is designed to develop basic skills, knowledge, and appreciation of the games and to also develop performance proficiency in both activities.

PHE 153 BASKETBALL **1 Credit**

Students learn the fundamentals, techniques, and strategies of the game, and also gain an appreciation of the complexities of the game.

PHE 157 VOLLEYBALL **1 Credit**

This course covers the historical development and present status of the sport. Students receive instruction in the fundamental skills, game strategy, rules, terminology, and specifics concerning safety.

PHE 251 BADMINTON/SQUASH **1 Credit**

Students receive instruction in the fundamental skills and techniques of the sport. The course also examines the history of the sport, current trends, rules, terminology, equipment, and etiquette.

PHE 252 BOWLING **1 Credit**

Students receive instruction in the fundamental skills and techniques of the sport. The course covers: approach, release, follow-through, aiming, scoring, rules, etiquette, and selection of equipment.

PHE 253 GOLF **1 Credit**

Students receive instruction in basic golf strokes, rules, etiquette, and playing opportunities. The course includes analysis of the sport through instant video replay.

PHE 255 TENNIS **1 Credit**

Students receive instruction in the fundamental skills and techniques of the sport. The course covers forehand and backhand strokes, serve, volley, lob, and smash. Strategies, hand grips, rules of the game, and selection of equipment are also discussed. Development of performance proficiency in the sport is a basic objective of this course.

PHE 256 TRACK AND FIELD **1 Credit**

This course introduces students to the techniques and mechanics of such activities as running/sprinting, jumping, throwing and hurdling, and development of speed, power, and endurance.

PHE 257 WEIGHT TRAINING FOR FITNESS **1 Credit**

Students are required to follow a regimen of progressive, resistance exercises for developing physical fitness. Individual assistance is rendered to help the student with the regimen in order to build strength, stamina, endurance, and muscle tone.

PHE 258 WRESTLING **1 Credit**

Students receive instruction in the fundamental skills and

techniques of the sport. The course covers the historical development and present status of the sport, offensive and defensive skills, rules, strategies, and specific techniques. Safety and training procedures are also examined.

PHE 260 GYMNASTICS ON APPARATUS 1 Credit

Students receive instruction in the various methods of gymnastics. They start with basic gymnastic movements and advance to more difficult movements. Student progression to various levels is determined by how well they perform specific skills and their mastery of equipment. Students are provided instruction in vaulting, horse, parallel bars, high bar, balance beam, and rings. Safety measures related to equipment and spotting are emphasized.

PHE 261 COACHING AND OFFICIATING FOOTBALL 2 Credits

This course offers instruction in various types of offensive and defensive patterns, rules, strategy, scouting techniques, and officiating mechanics.

PHE 262 COACHING AND OFFICIATING SOCCER 2 Credits

This course covers the basic principles and coaching methods for competitive soccer and also the mechanics of officiating.

PHE 263 COACHING AND OFFICIATING BASKETBALL 2 Credits

This course covers coaching methods for competitive basketball, strategy, scouting essentials, and mechanics of officiating.

PHE 266 COACHING AND OFFICIATING CROSS COUNTRY/TRACK AND FIELD 2 Credits

This course covers coaching principles and practices, scouting techniques, rules, strategy, and scoring.

PHE 270 AEROBIC ACTIVITY 1 Credit

This course is designed to help students develop and maintain body flexibility, muscular strength, muscular endurance, cardiovascular endurance, and ideal body composition through aerobic dance and exercise. Students perform prescribed dance/exercise type movements to music.

PHE 276 SELF-DEFENSE 1 Credit

This course is designed to help students develop self-defense skills. Students receive instruction on a variety of basic self defense movements including styles of American Karate. The course covers the physical, verbal, and spiritual benefits of Karate and also safety precautions.

PHE 277 ELEMENTS OF HATHA YOGA 1 Credit

Students perform stretching and breathing exercises based on Hatha Yoga. These exercises (asanas), if practiced regularly and methodically, aid in maintaining good health, improving cardiovascular circulation, and reducing stress. The exercises, when mastered, stretch and flex all major areas of the body in a balanced fashion increasing blood flow and improving breathing. Students keep a log of their individual progress and do a research report on the benefits of Hatha Yoga and its relationship to good health.

Physical Therapist Assistant

PTA 101 FUNDAMENTALS OF PHYSICAL THERAPIST ASSISTING I 5 Credits

This course is designed to orient the student to the role of the Physical Therapist Assistant and some of the duties involved therein. It covers the history of physical therapy, philosophy, duties, patient psychology, and ethics. Students learn about the relationship and placement of physical therapy in today's medical picture. Fundamentals of body structure, osteology, and kinesiology are stressed throughout. Students practice patient positioning, draping, transfers, therapeutic massage, and are also introduced to therapeutic exercises. Students learn via laboratory work and practice sessions in class. Prerequisite: Formal acceptance into the program. Laboratory fee.

PTA 102 PRINCIPLES OF PHYSICAL THERAPIST ASSISTING I 5 Credits

This course is designed to introduce students to disorders most commonly seen in patient care. It includes detailed examination of the application and effects of various modalities and equipment, particularly the use of heat, cold, water, and electricity in clinical practice. Students learn the use of equipment, including traction and intermittent compression pumps. They also learn the practical application of goniometric measurements, manual muscle testing, and ambulation training. Students learn via laboratory work, practice sessions in class, and observations in physical therapy clinics. Prerequisite: "C" or better in PTA 101. Co-requisite: PTA 106. Laboratory fee.

PTA 103 PHYSICAL THERAPIST ASSISTING PRACTICUM 5 Credits

Each student is assigned to a clinical setting that exposes the student to practical application of those principles and techniques covered in PTA 101, 102, and 106. The student meets periodically with his/her Academic Coordinator of Clinical Education for review and help with any encountered difficulties. Prerequisites: "C" or better in BIO 122, PTA 102, and PTA 106.

PTA 106 THERAPEUTIC INTERVENTION IN CHILD DEVELOPMENT AND GERONTOLOGY **3 Credits**

This course introduces the student to human development throughout the lifespan. Students learn about acquisition of gross and fine motor skills in the pediatric population and the concept of positioning and adaptive equipment. Normal infantile reflexes are introduced and the effects of persisting abnormal reflexes are discussed. Emphasis is placed on equilibrium and righting reactions and the normal/abnormal developmental sequence. Geriatric pathology is presented and students are trained to recognize and treat age-related changes affecting all biological systems. Prerequisites: Grade of "C" or better in PTA 101 and BIO 121. Co-requisite: PTA 102.

PTA 201 PRINCIPLES OF PHYSICAL THERAPIST ASSISTING II **4 Credits**

Students continue to gain skills in the assessment of various aspects of the human body. Sensory testing, balance and coordination, righting, and equilibrium reaction are covered. The anatomy and physiology of the nervous system are reviewed, and pathologies are examined in depth. Techniques in neuro-rehabilitation are introduced. Prerequisites: "C" or better in PTA 101, PTA 102, PTA 103, and PTA 106. Co-requisites: PTA 203 and PTA 209. Laboratory fee.

PTA 202 PRINCIPLES OF PHYSICAL THERAPIST ASSISTING III **4 Credits**

The course focuses on orthopaedic pathologies and rehabilitation, burns, cardiac rehabilitation, respiratory pathologies and treatments, prosthetics, and orthotic management. The course also covers the management of the geriatric patient, and ethical issues related to the administration of the health care system. Prerequisites: "C" or better in PTA 201 and PTA 203. Co-requisite: PTA 205. Laboratory fee.

PTA 203 PHYSICAL THERAPIST ASSISTING PRACTICUM II **4 Credits**

This course offers students opportunities to practice Physical Therapist Assisting. Assignments are made on the basis of demonstrated need for additional knowledge and/or skill. Students are assigned to hospitals, nursing homes, sub-acute hospitals, and pediatric facilities. Prerequisites: "C" or better in PTA 102, PTA 103, and PTA 106. Co-requisites: PTA 201 and 209.

PTA 205 PHYSICAL THERAPIST ASSISTING PRACTICUM III **6 Credits**

Students receive more opportunities to practice Physical Therapist Assisting. Assignments are made on the basis of demonstrated need for additional knowledge and/or skill in a given area. Students are assigned to hospitals, nursing homes, sub-acute hospitals, pediatric facilities, and various outpatient facilities. Prerequisites: "C" or better in PTA 201, PTA 203, and PTA 209. Co-requisite: PTA 202.

PTA 209 THERAPEUTIC EXERCISE **2 Credits**

Students are introduced to the basic concepts of Exercise Physiology. Current exercise techniques are presented and practiced. The student is trained in the use of various exercise equipment, including isokinetic machines. Importance is given to the development of patient programs to improve posture, strength, power, endurance, flexibility, and relaxation. Prerequisite: "C" or better in PTA 103. Co-requisites: PTA 201 and PTA 203.

Physics

PHY 101 COLLEGE PHYSICS I **4 Credits**

This is the first half of a standard college physics sequence for technology majors, biological science majors, and students preparing to take PHY 103 as engineering or computer science majors. Lecture and laboratory work is supported by individual assistance and computer activities. This course includes the study of kinematics, dynamics, momentum, energy, circular motion, universal gravitation, the structure of materials, and fluids. It is recommended that you take MTH 113 or MTH 120 concurrently. Prerequisite: "C" or better in MTH 100. Laboratory fee.

PHY 102 COLLEGE PHYSICS II **4 Credits**

This is the second half of a standard college physics sequence. Lecture and laboratory work are supported by individual assistance and computer activities. This course emphasizes the study of electricity, magnetism and light, and additional topics selected from heat, thermodynamics, vibrations, waves, sound, and areas of modern physics. Prerequisite: "C" or better in PHY 101 or permission of instructor. Laboratory fee.

PHY 103 GENERAL PHYSICS I **4 Credits**

This is the first course in general physics for computer science, engineering, and mathematics majors. Topics covered include calculus-based study of vectors, particle kinematics, Newton's laws, friction, conservation of energy and momentum, work, equilibrium, gravitation, rotation, and simple harmonic motion. Emphasis is placed on problem solving and laboratory applications. Prerequisite: high school physics or placement by the Division. Pre- or Co-requisite: MTH 121 (passing grade of "C" or better). Laboratory fee.

PHY 104 GENERAL PHYSICS II **4 Credits**

This is a continuation of PHY 103 with emphasis on electrostatics, DC and AC circuits, electromagnetism, mag-

netic properties of matter, and electromagnetic oscillations. Laboratory work includes taking electrical measurements using modern electronic test equipment. Prerequisite: "C" or better in PHY 103. Co-requisite: MTH 122. Laboratory fee.

PHY 111 THEORY OF OPTICS 3 Credits

This course introduces the physics of optics and light. Topics covered include the nature of light, reflection, and refraction and image formation for simple optical systems. Instructor provides laboratory demonstrations of the principles presented. Prerequisite: "C" or better in MTH 109 or equivalent. Laboratory fee.

PHY 113 ASTRONOMY 4 Credits

The basic concepts of astronomy will be introduced, focusing on the structure, motion, and evolution of our universe. Historical path to the present day level of understanding will be presented, describing Ptolemaic, Brahe, and Kepler models. Students will obtain some necessary physical background, such as the nature of light, atomic structure, gravitation, and relativity. Prerequisite: Grade of "C" or better in MTH 092 or placement. Laboratory fee.

PHY 114 METEOROLOGY 3 Credits

This course covers the composition and structure of the atmosphere, the flows of energy to, from, and through the atmosphere, and the resulting motions produced from small to planetary scales. The physical principles of atmospheric phenomena are stressed to provide an understanding of weather's impact on humans, particularly severe weather. Methods of analysis are developed through the study of current weather as meteorological data are obtained via the Internet. Prerequisite: Grade of "C" or better in MTH 092. Laboratory fee.

PHY 203 GENERAL PHYSICS III 5 Credits

This course is a continuation of PHY 103-104 which completes the introductory physics sequence for engineering majors. The theory and applications of the following topics are covered: Waves; oscillations with an introduction to Maxwell's Equations and its applications to microwaves; hydrodynamics; kinetic theory; physical and geometrical optics; theory of relativity; introduction to atomic theory; the periodic table; and elementary particles. Prerequisites: "C" or better in PHY 104 and MTH 122. Laboratory fee.

Political Science

POL 101 INTRODUCTION TO POLITICAL SCIENCE 3 Credits

This course explores systematically the "whys" and "hows" of politics. Political ideas, institutions, and practices are examined. Students develop useful tools for the exploration and discussion of political problems. Theoretical concepts and their application are examined. Pre- or Co-requisites: ENG 096 and RDG 096 (passing grade of "C" or better), or placement.

POL 104 AMERICAN GOVERNMENT 3 Credits

This course examines the structure and processes of the American governmental system. The branches of government are examined in both their historical and contemporary settings. Pre- or Co-requisite: ENG 096 and RDG 096 (passing grade of "C" or better), or placement.

POL 204 URBAN POLITICS AND PLANNING 3 Credits

This course is designed to orient students to urban political systems. It includes study of institutions, informal operations and dynamics, and complexities associated with economic developments in contemporary urban society. Students analyze both primary and secondary sources of information and examine various planning and policy development suggestions put forth by social scientists and others to cope with existing problems. Each student conducts a case study of a particular public or private agency whose expressed purpose is to provide some social service to the metropolitan community. Prerequisite: "C" or better in POL 101.

POL 206 POLITICS OF BLACK LIBERATION 3 Credits

This course examines the implications of the concept and reality of power and ideologies on the response of Black Americans to their experience of oppression. The relationships between black organizations and the sources of national power as represented by political parties and pressure groups are considered. Prerequisite: "C" or better in POL 104.

POL 210 POLITICAL PARTIES 3 Credits

This course is designed to educate students on the political process. Discussions focus on how parties organize and function to influence public opinion. Manipulative tactics adopted by politicians, media, pressure groups, and party organizational machinery are also covered. Prerequisites: "C" or better in POL 101 or POL 104.

Psychology

PSY 101 GENERAL PSYCHOLOGY I PERSONALITY AND SOCIAL ASPECTS 3 Credits

This introductory course examines the history, methodology, definitions, and ideas relating to such concepts as personality formation, self-concept, defense mechanisms, emotions, and conditioning. Emphasis is placed on the relationship of these concepts to the student's understanding of self and others in everyday interactions. Pre- or Co-requisite: ENG 096 and RDG 096 (passing grade of "C" or better for each), or placement.

PSY 102 GENERAL PSYCHOLOGY II PHYSICAL AND SENSORY ASPECTS **3 Credits**

This course examines the structure and function of our various senses as starting points for all human knowledge. Visual perception and illusions, along with concepts related to human learning and forgetting is studied. An understanding of the nature of thinking, problem solving, and language is developed. Prerequisite: "C" or better in PSY 101.

PSY 205 THEORIES OF PERSONALITY **3 Credits**

This course explores current approaches and theories of personality development and organization. Emphasizing healthy adult personality development, selective theories of personality that guide research, as represented by the psychoanalytic, sociocultural, trait, learning, sociobiological, and existential-humanistic paradigms, are presented and critically evaluated. Prerequisite: "C" or better in PSY 101.

PSY 209 ABNORMAL PSYCHOLOGY **3 Credits**

This course examines the different types of mental illness that exist within modern society. The influence of heredity and environment upon mental illness is considered and recent therapeutic methods are critically examined. Prerequisite: "C" or better in PSY 101.

PSY 210 GROUP DYNAMICS **3 Credits**

This course explores the fundamental concepts of understanding interpersonal behavior in the context of small groups. By integrating group theory and research with experiential activities, students gain a better understanding of group processes and improve their interpersonal skills as group members. The course is of special value to students entering mental health, social work, education, business, or similarly related professions in which the knowledge of group processes are beneficial. Prerequisite: "C" or better in PSY 101.

PSY 211 SOCIAL PSYCHOLOGY **3 Credits**

This course is designed to help students understand and explain social-psychological phenomena. Concepts such as conformity, fear, humor, gratitude, lying, selfishness and attitude, and impression formation are examined. Various methods are applied to enable students to understand the behavior and thoughts of individuals and groups. The course objective is to develop students' ability to independently analyze social-psychological phenomena. Prerequisite: "C" or better in PSY 101.

PSY 219 CHILD PSYCHOLOGY AND DEVELOPMENT **3 Credits**

This course examines the interrelationships between the psychological and physical development of the child from birth through adolescence. Topics covered include physical and emotional influences on growth, intellectual development, the significance of interpersonal relations, and cultural aspects of personality development. Prerequisite: "C" or better in PSY 101.

PSY 220 EDUCATIONAL PSYCHOLOGY **3 Credits**

The practical application of psychological principles to the educative process is explored. The theoretical ideas behind the practices are explained. Methods of student evaluation are considered. Techniques of motivating students are described and related to studies of efficient learning methods. Special problems of adjustment and their effects on school performance are discussed. Prerequisite: "C" or better in PSY 101.

PSY 225 CHILD AND ADOLESCENT ABNORMAL PSYCHOLOGY **3 Credits**

This course focuses on the etiology, classification, diagnosis, and treatment of childhood disorders. Emphasizing the developmental aspects of child psychopathology, how children's and adolescents psychological disorders are distinguishable from those of adults is examined. Particular attention is also devoted to understanding how the mental health, education, health care, and juvenile justice systems provide services to children and adolescents with psychological disorders. Prerequisites: "C" or better in PSY 101.

PSY 232 HUMAN SEXUALITY **3 Credits**

This course examines various theoretical perspectives on sexuality, such as its biological, psychological, social and cultural dimensions. Topics examined include, but are not limited to, male and female sexual anatomy, physiology, and response; sexuality over the life span; variations in sexual behavior and expression; sexual dysfunctions, paraphilias, and related therapies. Emphasis is placed on the human sexual experience as a vehicle for self-awareness, self-understanding, and self-acceptance. Prerequisites: "C" or better in PSY 101, SOC 101, or SOC 108.

PSY 250 THEORY AND PRACTICE OF COUNSELING AND PSYCHOTHERAPY **3 Credits**

This course presents current theories and practices used in counseling and psychotherapy. Topics covered include legal and ethical issues and therapies such as those classified as psychodynamic, cognitive, behavioral, group, and peer self-help groups. Prerequisite: "C" or better in PSY 101.

PSY 251 COUNSELING AND TREATMENT OF ADDICTIONS **3 Credits**

This course provides an introduction to the individual, group, and family treatment of alcohol and drug dependency. The theoretical and historical basis, and the implications of a variety of treatment methods are considered including 12-step self-help programs, therapeutic communities, detoxification, rehabilitation, outpatient care, half-way houses, methadone, and employee and student assistance. Treatment planning by objectives and stages is stressed. Special topics of concern such as engagement,

mandated treatment, enabling, and the treatment relationship are surveyed. This course is approved for 45 educational hours toward N.J. alcoholism counselor (CADC) certification or recertification.

Radiography

RTC 100 RADIOLOGIC TECHNOLOGY I LABORATORY **2 Credits**

This course provides detailed information on the theory of X-ray techniques and its practical application in radiography. Seminars are conducted in the classroom/laboratory on radiographic film evaluation. Students learn to critique or differentiate between radiographs of diagnostic quality and non-diagnostic quality. Prerequisite: Formal acceptance into the program. Laboratory fee.

RTC 101 RADIOLOGIC POSITIONING PRINCIPLES I/LABORATORY **4 Credits**

This course provides instruction, with related terminology, in radiographic positioning of lower and upper extremities, chests, and abdomens. Lecture is supplemented with demonstrations and opportunities for students to practice the skills in the radiographic room. Critiques of radiographic films are conducted in the classroom/laboratory. Prerequisite: Formal acceptance into the program. Laboratory fee.

RTC 102 RECORDING MEDIA/LABORATORY **1 Credit**

This course is designed to develop the necessary knowledge and skills to perform darkroom procedures with accuracy and efficiency. Students are provided a full understanding of the chemical constituents of processing solutions and their function. Critiques of radiographic films are conducted. Prerequisite: Formal acceptance into the program. Laboratory fee.

RTC 103 PATIENT CARE/ETHICS **2 Credits**

This course acquaints students with nursing procedures and techniques used in the general care of the patient. Emphasis is on the role of the technologist in various nursing situations. Students are also instructed in the ethical principles and the responsibilities entailed by becoming a member of a paramedical profession. Prerequisite: Formal acceptance into the program.

RTC 104 RADIATION PROTECTION **2 Credits**

This course develops students' knowledge of safety standards in operating radiation equipment. Students learn the principles of radiation protection and practical skills to ensure maximum safety for both patients and the equipment operator. Lecture is supplemented with demonstrations and opportunities for students to practice the skills in the radiographic room. Critiques of radiographic films are conducted in the classroom/laboratory. Co-requisites: RTC 100, RTC 101, RTC 102, and RTC 103.

RTC 105 RADIOLOGIC TECHNOLOGY II LABORATORY **2 Credits**

Students gain, through problem solving and completing experiments, a thorough working knowledge of manipulating exposure factors. Students also learn the principles for constructing technique charts for all situations and all kilovoltage ranges. Critiques of radiographic films are conducted in the classroom/laboratory. Prerequisite: "C" or better in RTC 100. Laboratory fee.

RTC 106 RADIOLOGIC POSITIONING PRINCIPLES II/LABORATORY **4 Credits**

This course is a continuation of RTC 101. Instruction is provided in radiographic positioning of the vertebral column, pelvic girdles, and bones of the thorax. Students are taught radiographic procedures using contrast media. Lecture is supplemented with demonstrations and opportunities for students to practice the skills in the radiographic room. Critiques of radiographic films are conducted in the classroom/laboratory. Prerequisite: "C" or better in RTC 101. Co-requisites: RTC 107 and RTC 108. Laboratory fee.

RTC 107 CONTRAST MEDIA (PHARMACOLOGY) **2 Credits**

Students are further acquainted with procedures in radiography involving the use of contrast media. Detailed information is provided on the equipment and media used, and on the reactions and contradictions to these media. Critiques of radiographic films are conducted in the classroom/laboratory. Prerequisite: "C" or better in RTC 101. Co-requisites: RTC 106 and RTC 108.

RTC 108 CLINICAL RADIOGRAPHY I **1 Credit**

Students are assigned to clinical affiliations for approximately 15 weeks, two days each week, to perform routine examinations under the supervision of a registered radiologic technologist. Critiques of radiographic films are conducted at the clinical site. Prerequisites: "C" or better in RTC 100, RTC 101, RTC 102, RTC 103, and RTC 104. Co-requisites: RTC 106 and RTC 107.

RTC 109 RADIOLOGIC POSITIONING PRINCIPLES III/LABORATORY **2 Credits**

This course provides precise and detailed information, with related terminology, on the various positions of the skull, including routine positions, and positions with regard to facial bones, paranasal sinuses, and mastoid. Lecture is supplemented with demonstrations and opportunities for students to practice the skills in the radiographic room. Critiques of radiographic films are conducted in the classroom/laboratory. Prerequisite: "C" or better in RTC 108. Co-requisite: RTC 110. Laboratory fee.

RTC 110 RADIOLOGIC ADVANCE POSITIONING PRINCIPLES IV **1 Credit**

Students gain, through problem solving and completion of experiments, a thorough working knowledge of special and troublesome procedures. This course is for students who have practiced the basic views and are aware of positioning limitations. Students learn alternate positioning skills to image various anatomical structures in the emergency room environment. Lecture is supplemented with demonstrations and opportunities for students to practice the skills in the radiographic room. Critiques of radiographic films are conducted in the classroom/laboratory. Prerequisites: "C" or better in RTC 101 and RTC 106. Co-requisite: RTC 109.

RTC 111 CLINICAL RADIOGRAPHY II **1 Credit**

Students are assigned to clinical affiliations for approximately eight weeks, three days per week, to perform routine examinations under the supervision of a registered radiologic technologist. Critiques of radiographic films are conducted at the clinical site. Prerequisite: "C" or better in RTC 108. Co-requisites: RTC 109 and RTC 110.

RTC 112 CLINICAL RADIOGRAPHY III **2 Credits**

Students are assigned to clinical affiliations for approximately eight weeks, five days per week, to perform all radiographic procedures under the supervision of a registered radiologic technologist. Critiques of radiographic films are conducted at the clinical site. Prerequisite: "C" or better in RTC 111.

RTC 200 RADIOGRAPHIC PATHOLOGY **2 Credits**

This course deals with application of X-ray technology on seriously ill or injured patients to produce informative radiographs. Students learn about anatomical changes resulting from disease and/or injury and how to take radiographs that are most informative for diagnosis and treatment. Critiques of radiographic films are conducted at the classroom and clinical sites. Prerequisite: "C" or better in RTC 112. Co-requisites: RTC 201, RTC 202, RTC 203, RTC 204, and RTC 205.

RTC 201 RADIATION BIOLOGY/LABORATORY **2 Credits**

This course provides basic information on the effects of radiation therapy and radioisotopes on biological systems. It is geared toward students whose training is primarily in the field of diagnostic X-ray technology. Critiques of radiographic films are conducted in the classroom/laboratory, focusing on the effects of radiation as related to radiation biology and health physics. Prerequisite: "C" or better in RTC 112. Co-requisites: RTC 200 and RTC 202.

RTC 202 CLINICAL RADIOGRAPHY IV **2 Credits**

Students are assigned to clinical affiliations for approximately 15 weeks, three days per week, to perform all radiographic procedures under the supervision of a registered technologist. Critiques of radiographic films are conducted at the clinical sites. Prerequisite: "C" or better in RTC 112. Co-requisites: RTC 200 and RTC 201.

RTC 203 SPECIAL PROCEDURES/ LABORATORY **3 Credits**

Students learn about the specialized and highly technical procedures in radiography, such as computerized axial tomography (CAT), magnetic resonance imaging (MRI), and ultrasound angiography, and the general indications for each examination. Quality control methods are also covered. Selected radiographs supplement anatomical review of the systems to be examined, prior to radiographic procedures. Lecture is supplemented with demonstrations and opportunities for students to practice the skills in the radiographic room. Critiques of radiographic films are conducted in the classroom/laboratory. Prerequisite: "C" or better in RTC 202. Co-requisites: RTC 204 and RTC 205. Laboratory fee.

RTC 204 PEDIATRIC/GERIATRIC RADIOGRAPHY **2 Credits**

Pediatrics and geriatrics are specialized fields. It is important that the technologist follows definite procedural methods with young and elderly patients. Advantages include saving time, film, and energy, as well as minimizing the amount of radiation on the patient. This course provides detailed instruction in radiographic positioning, procedures, and equipment for pediatric and geriatric patients. Lecture is supplemented with demonstrations and opportunities for students to practice the skills in the radiographic room. Critiques of radiographic films are conducted. Prerequisite: "C" or better in RTC 202. Co-requisites: RTC 203 and RTC 205.

RTC 205 CLINICAL RADIOGRAPHY V **2 Credits**

Students are assigned to clinical affiliations for approximately 15 weeks, three days per week, to assist in pediatric and geriatric procedures under the supervision of a registered technologist. Critiques of radiographic films are conducted at the clinical site. Prerequisite: "C" or better in RTC 202.

RTC 206 CLINICAL RADIOGRAPHY VI **2 Credits**

Students are assigned to clinical affiliations for approximately eight weeks, five days per week. They rotate through CT departments under the supervision of a registered technologist. They perform routine radiography until designated appointment for CT. Critiques of radiographic films are conducted, with focus on the effects of radiation as related to CT. Prerequisite: "C" or better in RTC 205.

RTC 207 CLINICAL RADIOGRAPHY VII **2 Credits**

Students are assigned to clinical affiliations for approximately eight weeks, four days per week, for mastery of radiologic technology skills. Students perform all radiographic

procedures including assisting in O.R. and special procedures under the supervision of a registered technologist. Critiques of radiographic films are conducted at the clinical sites. Successful completion of a comprehensive examination is required. Prerequisite: "C" or better in RTC 206.

Reading

RDG 096 READING FOUNDATIONS FOR COLLEGE STUDENTS **4.5 Credit**

This is a reading skills course designed to increase the comprehension of transition-level students' ability to interpret text accurately and evaluate it logically. The course emphasizes a whole language approach; students learn to discuss, comprehend, and write about text as well as read it. Individualized tutoring is available in addition to traditional classroom instruction. Prerequisites: "C" or better in ENG 088 or placement.

RDG 096T READING FOUNDATIONS FOR COLLEGE STUDENTS (TUTORIAL) **1 Credit**

Supplemental instruction of RDG 096 is a combination of self-directed web-based, classroom, and individualized "one-on-one" instruction with faculty as well as trained instructional assistants. Emphasis is on reinforcement of classroom and lecture as well as training in use of the College's web-based system for student information, registration, library usage, etc. Prerequisites: "C" or better in ENG 088 or placement.

Respiratory Therapy (offered through UMDNJ - School of Health Related Professions)

RST 100 CORE CONCEPTS IN RESPIRATORY CARE **1 Credit**

This course serves as an orientation to general patient assessment and examination. Topics covered include infection control, patient safety, interviewing and communication, record keeping, and clinical laboratory studies. Students learn, through lecture and demonstrations, the fundamentals underlying the skills to be practiced in the laboratory and then performed during clinical practice. This course must be taken concurrently with RST 110. Prerequisite: Formal acceptance into the program. Co-requisites: RST 110, RST 118, and RST 123.

RST 110 FUNDAMENTALS OF RESPIRATORY CARE **4 Credits**

This course serves as an introduction to basic therapeutic modalities employed in contemporary respiratory care, including basic patient assessment, cardiopulmonary resuscitation, medical gas therapy, humidity and aerosol therapy, hyperinflation therapy, chest physical therapy, and infection control. This course must be taken concurrently with RST 100. Prerequisite: Formal acceptance into the program. Co-requisites: RST 100, RST 118, and RST 123. Laboratory fee.

RST 118 CLINICAL PRACTICE I **1 Credit**

This course serves as an orientation to the hospital environment and to the basic respiratory care procedures covered in RST 110. Clinical instruction and supervised practice opportunities are provided in the areas of medical charting, infection control, basic patient assessment, and basic therapeutics. Clinical hours: 90. Prerequisite: Formal acceptance into the program. Co-requisites: RST 100, RST 110, and RST 123. Laboratory fee.

RST 123 APPLIED CARDIO-PULMONARY PATHOPHYSIOLOGY I **2 Credits**

This course examines the anatomy and physiology of the cardiopulmonary system as it relates to respiratory care. Topics covered include basic anatomy of the pulmonary and cardiac systems, physiology of circulation, ventilation, gas exchange and transport, acid-base balance, and control of respiration. An overview of the pathophysiology and treatment of common disorders of the cardiopulmonary system is also provided. Prerequisite: Formal acceptance into the program. Co-requisites: RST 100, RST 110, and RST 118. Laboratory fee.

RST 125 PRINCIPLES OF VENTILATORY SUPPORT **4 Credits**

This course serves as an introduction to the physiologic principles and techniques of artificial ventilatory support. Topics covered include airway management, indications for and application of mechanical ventilation, functional operation of mechanical ventilators, and basic monitoring and management of the patient in respiratory failure. Lecture hours: 30. Laboratory hours: 45. Prerequisites: "C" or better in RST 100, RST 110, RST 118, and RST 123. Co-requisites: RST 128, RST 212, RST 213, and RST 223. Laboratory fee.

RST 128 CLINICAL PRACTICE II **2 Credits**

Students further practice and master basic respiratory care procedures introduced in RST 118. They are also introduced to airway management skills and principles of intensive respiratory care, including patient assessment and basic ventilator monitoring. Clinical hours: 180. Prerequisites: "C" or better in RST 100, RST 110, RST 118, and RST 123. Co-requisites: RST 125, RST 212, RST 213, and RST 223. Laboratory fee.

RST 138 CLINICAL PRACTICE III **3 Credits**

Students develop, through supervised experience, the skills necessary to function independently in a critical care setting. Observational experience is also provided in pulmonary function testing and pediatric-neonatal respi-

ratory care. Clinical hours: 180. Prerequisites: "C" or better in RST 125, RST 128, RST 212, RST 213, and RST 223. Co-requisite: RST 214, RST 225, and RST 237. Laboratory fee.

RST 212 CARDIOPULMONARY PHARMACOLOGY 2 Credits

This course provides an overview of drugs affecting the cardiopulmonary system, including various classes of bronchodilators, steroids, antimicrobials, skeletal muscle relaxants, central nervous system depressants, respiratory stimulants, diuretics, and cardiovascular agents, including ACLS, PALS, and neonatal resuscitation drugs. Prerequisites: "C" or better in RST 100, RST 110, RST 118, and RST 123. Co-requisites: RST 125, RST 128, RST 213, and RST 223. Laboratory fee.

RST 213 APPLIED CARDIOPULMONARY PATHOPHYSIOLOGY II 2 Credits

This course examines the pathophysiology of the disorders of ventilation, perfusion, and oxygenation, which result in cardiopulmonary failure. Emphasis is on diagnosis and treatment in the clinical setting. Clinical hours: 180. Prerequisite: "C" or better in RST 100, RST 110, RST 118, and RST 123. Co-requisites: RST 125, RST 128, RST 212, and RST 223.

RST 214 PATIENT MANAGEMENT - CRITICAL CARE 3 Credits

This course covers in depth the clinical management of the cardio-pulmonary patient in the critical care setting, emphasizing specialized respiratory assessment, advanced ventilatory management, basic interpretation of the chest film, hemo-dynamic monitoring, ECG interpretation, and the effects of cardiopulmonary disorders on other major body systems Lecture hours: 30. Laboratory hours: 45. Prerequisites: "C" or better in RST 125, RST 128, RST 212, RST 213, and RST 223. Co-requisites: RST 138, RST 225, and RST 237. Laboratory fee

RST 223 CARDIOPULMONARY EVALUATION 2 Credits

This is a lecture and laboratory course on invasive and non-invasive diagnostic and monitoring procedures including roentgenography, electrocardiography, pulmonary function testing, hemodynamic monitoring, arterial blood gas analysis, patient interviewing, and physical assessment. Prerequisites: "C" or better in RST 100, RST 110, RST 118, and RST 123. Co-requisites: RST 125, RST 128, RST 212, and RST 213. Laboratory fee.

RST 225 PEDIATRIC/NEONATAL RESPIRATORY CARE 3 Credits

This course introduces the special respiratory care needs of the neonatal and pediatric patients. Topics covered include development of the respiratory system, care of the newborn, respiratory diseases, mechanical ventilation, oxygen and aerosol therapy, and emergency transport. Supervised pediatric and neonatal clinical experience occurs. Prerequisites: "C" or better in RST 125, RST 128, RST 212, RST 213, and RST 223. Co-requisites: RST 138, RST 214, and RST 237. Laboratory fee.

RST 237 LONG-TERM, HOME, REHABILITATIVE CARE 3 Credits

This course analyzes the goals and methods underlying provision of respiratory care in non-acute settings. Topics covered include standards and regulations governing non-acute respiratory care, team planning, patient selection, long-term care, and rehabilitation facilities. The course also deals with cost, reimbursement, and ethical issues. Prerequisites: "C" or better in RST 125, RST 128, RST 212, RST 213, and RST 223. Co-requisite: RST 138, RST 214, and RST 225. Laboratory fee.

Sociology

FPD 080 FOUNDATIONS OF PERSONAL DEVELOPMENT I 1.5 Credits

This is a counseling course designed to assist pre-college students in their personal adjustment to the college environment. The course addresses the development of a positive self-concept, effective interpersonal communication skills, and working knowledge of college systems. The course is limited to Special Programs students. Co-requisite: Any skills development course.

FPD 081 FOUNDATIONS OF PERSONAL DEVELOPMENT II 1.5 Credits

This is a counseling course designed to assist the pre-college student in viewing college education as a component in the career development process. Topics covered include realistic establishment of career/educational goals, pursuit of vocational goals, time management, and personal interaction. The course is limited to Special Programs students. Co-requisite: Any skills development course.

PSR 080 PROBLEM SOLVING AND REASONING SKILLS 1.5 Credits

This is a thinking skills course designed to help the pre-college level student learn to solve problems that pertain to course work and to everyday life situations. Emphasis is placed on developing the student's ability to think things through, make decisions, solve problems, and understand the processes of thinking and decision-making. This course is limited to Special Programs students. Co-requisite: Any skills development course.

SOC 101 INTRODUCTION TO SOCIOLOGY 3 Credits

This course introduces students to the idea of society as a framework within which all people live their lives, and to the factors or processes determining the structure or shape

of society. Concepts and processes such as social institutions, social stratification, ideologies, and social change are discussed and clarified. Prerequisites: "C" or better in ENG 096 and RDG 096, or placement.

SOC 108 SOCIAL PROBLEMS 3 Credits

This course examines the causes of selected social problems. Emphasized are national social problems as well as those that affect urban areas. Prerequisites: "C" or better in ENG 096 and RDG 096, or placement. (SOC 101 is advised but not a prerequisite.)

SOC 111 HELPER THEORY 3 Credits

This course examines ways in which the helping professions intervene in individual, group, community, and societal processes with the goal of improving social functioning. Prerequisite: "C" or better in ENG 096 and RDG 096, or placement. (SOC 101 is advised but not a prerequisite.)

SOC 121 SOCIAL SERVICE POLICIES AND PROCEDURES I 3 Credits

This course examines from a historical perspective the processes involved in formulating social service policies and eligibility criteria, and in distribution of benefits. The course covers the relationship of social service agencies and institutions to federal, state, and municipal government and to policy development, and includes an introduction to the structure and mode of operation of these agencies and institutions. Prerequisite: "C" or better in SOC 101 or PSY 101.

SOC 122 SOCIAL SERVICE POLICIES AND PROCEDURES II 3 Credits

Designed to provide the theoretical and practical knowledge needed for entry levels of practice in social work, this course articulates the skills needed for social work practice and spells out the relationship between specific skills and service outcomes. Prerequisite: "C" or better in SOC 121.

SOC 125 THE DISABLED AND THE SOCIAL SERVICES 3 Credits

This course is an introduction to the field of disability. It includes discussion of types and characteristics of disability, the economic, psychological, and social effects on the disabled, and the function, value, and role of health and social agencies involved with the disabled. Prerequisite: "C" or better in SOC 101.

SOC 153 ALCOHOL AND SUBSTANCE ABUSE PREVENTION AND EDUCATION 3 Credits

This course provides an introduction to the individual, group, and social factors that predispose or create a risk for substance abusing behavior, the knowledge and skills needed for entry into the prevention profession, and the broad range of prevention activities and strategies utilized to reduce the risk or frequency of substance abusing behaviors. This course is approved as educational hours towards the CADC credential. Prerequisite: "C" or better in SOC 101 or PSY 101 or permission of the instructor.

SOC 199 BEHAVIORAL SCIENCE FOR HEALTH PROFESSIONS 3 Credits

This course is a survey of the relationship between the social sciences and health fields. Topics covered include group differences in health and illness beliefs and behavior, relationships between providers and patients and among providers, sick roles, and sociocultural roots of health values, health policy, and a health organization. It is designed for majors in health and human services. Prerequisites: "C" or better in SOC 101 and PSY 101, or placement.

SOC 201 SOCIAL GERONTOLOGY 3 Credits

This course examines the role of the aged in today's society; the biological, psychological, and social aspects of aging; problems in the health of the aged; problems in retirement and leisure; the economics and politics of aging; issues confronting the aging person; and the prospects for the aged in tomorrow's society. Prerequisite: "C" or better in SOC 101 or PSY 101.

SOC 203 RACIAL AND CULTURAL MINORITIES 3 Credits

This course analyzes the influence and contributions of selected racial, ethnic, and cultural minorities in contemporary American life. Emphasis is placed on the structural elements in American society affecting the entry of such groups into the mainstream of American life. The social and psychological dynamics of prejudice and discrimination are examined. Prerequisite: "C" or better in SOC 101.

SOC 204 URBAN SOCIOLOGY 3 Credits

Urbanism is stressed as a way of life with distinct social relationships and values. Emphasis is on the social and physical environment of modern urban life, its relationships, processes, and implications, and various alternatives open to urban people. Prerequisite: "C" or better in SOC 101.

SOC 205 THE SOCIOLOGY OF THE BLACK COMMUNITY IN CONTEMPORARY AMERICA 3 Credits

This course examines the social forces operating in the Black community. Consideration is given to the changes in the philosophy of the Black movement and changes in attitudes about integration. White liberalism and Black leadership are particularly stressed. Prerequisite: "C" or better in SOC 101.

SOC 206 SOCIAL STRATIFICATION 3 Credits

This course considers the significance of social stratification as an aspect of the structure of social systems. It includes discussion of various stratification theories, historical trends, and cultural variations in stratification. Prerequisite: "C" or better in SOC 101.

SOC 207 UNDERSTANDING DEATH AND DYING 3 Credits

The course takes a close look at aspects of the dying process in such situations as murder, suicide, capital punishment, and grief. It examines the thoughts, feelings, and actions of the dying and of those affected by death so that the student can gain greater insight into the subtle relationships these factors have with each other and with death. This course is designed for all students seeking better understanding of death and the process of bereavement. Prerequisite: "C" or better in SOC 101 or PSY 101.

SOC 219 SOCIOLOGY OF THE FAMILY 3 Credits

This course is s sociological study of the family as an institution. Topics covered include historical development, the American system, child-rearing, and marriage. Prerequisite: "C" or better in SOC 101 or PSY 101.

SOC 228 HUMAN AND SOCIAL SERVICES FIELDWORK I 3 Credits

Students are placed in a voluntary internship capacity for a minimum of ten hours per week at a recognized human services agency, under the supervision of agency staff and an ECC faculty member. Students can gain first-hand knowledge of how human service agencies function. Evaluation conducted during and at the end of the semester is a cooperative effort by the agency and the faculty member responsible. Separate sections are offered for students pursuing careers in social work, mental health, alcoholism/substance abuse, and gerontology. Pre- or Co-requisites: PSY 101 and SOC 111 (passing grade of "C" or better), or permission of instructor. Co-requisite: SOC 229.

SOC 229 HUMAN AND SOCIAL SERVICES INTERNSHIP SEMINAR I 3 Credits

Students discuss and analyze situations encountered in their internship placement, receive specialized skills training in their professional specialization, and are instructed in how to prepare to enter the career market. Separate sections are offered for students pursuing careers in social work, mental health, alcoholism/substance abuse, and gerontology. Pre- or Co-requisite: PSY 101 and SOC 111 (passing grade of "C" or better), or permission of instructor. Co-requisite: SOC 228.

SOC 230 HUMAN AND SOCIAL SERVICES FIELDWORK II 3 Credits

This is the second semester internship placement in social work, mental health, or alcoholism/substance abuse, continuing SOC 228. Pre- or Co-requisites: PSY 101 and SOC 111 (passing grade of "C" or better), or permission of instructor. Co-requisite: SOC 231.

SOC 231 HUMAN AND SOCIAL SERVICES INTERNSHIP SEMINAR II 3 Credits

This second semester internship seminar continues the work of SOC 229. Pre- or Co-requisites: PSY 101 and SOC 111 (passing grade of "C" or better), or permission of instructor. Co-requisite: SOC 230.

SOC 238 METHODS AND TECHNIQUES OF WORKING WITH ELDERLY 3 Credits

This course examines concepts and intervention strategies that are used in providing services to the elderly in our society. Prerequisite: "C" or better in SOC 101 or PSY 101.

SOC 250 SUBSTANCE USE AND ABUSE IN AMERICAN SOCIETY 3 Credits

The course examines the causes and varieties of chemical dependency and abuse. Topics covered include the effects of alcohol, sedatives, narcotics, stimulants, hallucinogens, polyaddiction, and abuse; the psychological, social, genetic, and cultural factors involved in their use and abuse; the progression of addiction; and the resultant medical conditions. (This course together with SOC 252 constitute the educational requirements for the Chemical Dependency Associate in New Jersey and are also approved as educational hours toward the CJC and CADC credential). Prerequisite: "C" or better in SOC 101 or PSY 101.

SOC 252 CASE MANAGEMENT OF ADDICTIONS 3 Credits

This course provides an introduction to the knowledge, skills, and attitudes necessary for addiction counselors to perform counseling functions, clinical evaluation, treatment planning, and case management. It introduces students to the professional and ethical responsibilities of professional practice. (This course, together with SOC 250, constitutes the educational requirements for the Chemical Dependency Associate in New Jersey and is also approved as educational hours toward the CJC and CADC credential). Prerequisite: "C" or better in SOC 101 or PSY 101.

Spanish

SPN 100 PRACTICAL SPANISH 3 Credits

This is an elementary course in speaking and understand-

ing Spanish. Emphasis is on oral comprehension and oral expression in a variety of practical situations rather than on the form and function of the language. The course serves as an excellent tool for communication with Spanish-speaking people, both abroad and within our own Hispanic community. Content area may vary in accordance with student needs.

SPN 101 ELEMENTARY SPANISH I 3 Credits

This is the first half of a year's course for students with little or no background in the Spanish language. Listening comprehension, speaking, reading, and writing are developed within the limits of basic vocabulary, idioms and grammar. Pre or Co-requisites: ENG 096/097and RDG 096/097 or ESL 103 and ESL 104 (passing grade of "C" or better for each), or placement.

SPN 102 ELEMENTARY SPANISH II 3 Credits

This course is a continuation of SPN 101. It is designed to expand students' knowledge of vocabulary and grammar to include multiple tenses and uses of the verb. The four language skills: listening comprehension, speaking, reading, and writing continue to be developed. Prerequisite: "C" or better in SPN 101 or placement.

SPN 110 ADVANCED SPANISH COMPOSITION 3 Credits

This course, designed for native speakers of Spanish, provides an intensive review of Spanish grammar and examines the problems of written composition in the Spanish language. This course is conducted in Spanish. Prerequisite: Placement.

SPN 201 INTERMEDIATE SPANISH I 3 Credits

This course thoroughly reviews Spanish grammar while continuing the aims of SPN 101-102. Facility in using the language is enhanced through more advanced reading selections and discussions in the language. Prerequisite: "C" or better in SPN 102 or placement.

SPN 202 INTERMEDIATE SPANISH II 3 Credits

This course is a continuation of SPN 201. It completes the review of Spanish grammar and focuses on further development of the four language skills: listening comprehension, speaking, reading, and writing. Prerequisite: "C" or better in SPN 201 or placement.

SPN 222 LATIN AMERICAN LITERATURE 3 Credits

This course, given in Spanish, is designed to acquaint students with some of the outstanding writers of Latin America from colonial times to the present. Prerequisite: "C" or better in SPN 110 or SPN 202, or placement.

SPN 225 CARIBBEAN LITERATURE 3 Credits

This course involves reading, interpretation, and analysis of selected authors and texts of Caribbean literature. It is taught in Spanish. Prerequisite: "C" or better in SPN 110 or SPN 202, or placement.

SPN 227 US LATINO LITERATURE 3 Credits

This course is an introduction to the literature of US Latino writers. It concentrates on their cultural roots and gives the student a better understanding of the sociocultural, political, and economic forces that shaped the literature. It addresses the development of literary trends, values, and prevailing social conditions as they are presented by Latino writers. Classes are conducted in Spanish. Prerequisites: "C" or better in SPN 110 or SPN 202, or placement.

Uniform Construction Code Administration

UCC 109 SUBCODE OFFICIAL 3 Credits

This course is designed to satisfy the official educational requirement for New Jersey State licensure as Uniform Construction Code Enforcement Subcode Official. The course covers in detail the administrative background and procedures of the office, the legal aspects of code enforcement, and related legislation.

UCC 110 CONSTRUCTION OFFICIAL 3 Credits

This course is designed to satisfy the educational requirement for licensure as a Construction Official. It provides students the technical and administrative knowledge to effectively enforce the Uniform Construction Code at the local level. Prerequisite: Completion of the educational program required for Subcode Official.

UCC 120 BUILDING INSPECTOR RCS 4 Credits

This course is designed to satisfy the educational requirement for licensure as Building Inspector RCS. The course is based on the BOCA National Building Code, the BOCA National Mechanical Code, and the CABO One and Two Family Dwelling Code. It covers techniques for evaluating structural design and materials, plan review, basic fire protection requirements, and field inspection and reporting as applied to Class III residential and small commercial structures. Reference is made to the New Jersey Uniform Construction Code.

UCC 121 BUILDING INSPECTOR ICS 6 Credits

This course is designed to satisfy the educational requirement for licensure as Building Inspector ICS. The course is based on the New Jersey Uniform Construction Code, the BOCA National Building Code, the National Mechanical

Code, and the National Energy Conservation Code. It covers techniques for evaluating structural design, fire protection, and mechanical systems; plan analysis; and field inspection and reporting as applied to Class II industrial and commercial structures. Prerequisite: UCC 120.

UCC 130 ELECTRICAL INSPECTOR ICS 4 Credits

This course is designed to satisfy the educational requirement for licensure as Electrical Inspector ICS. The course covers the New Jersey Uniform Construction Code and the National Electrical Code. The course consists of 30 hours of instruction in systems design and 30 hours of instruction in plan review and field inspection techniques.

UCC 140 FIRE PROTECTION INSPECTOR ICS- PART I 4 Credits

This course is designed to satisfy the educational requirement for mastery of the Fire Protection Subcode for residential and small commercial structures. The course is based on the New Jersey Uniform Construction Code and the BOCA National Building Code. It covers techniques for plan review, materials testing, field inspection, and report writing. It is Part I of a two-part 120-hour course required for licensure as Fire Protection Inspector ICS.

UCC 141 FIRE PROTECTION INSPECTOR ICS - PART II 4 Credits

This course covers techniques for plan review and field inspection of fire protection systems and electrical systems. It is a detailed study of the Code, focusing on its relation to fire prevention. It is Part II of the 120-hour course required for licensure as Fire Protection Inspector ICS. Prerequisite: Completion of UCC 140.

UCC 150 PLUMBING INSPECTOR ICS 6 Credits

This course is designed to satisfy the educational requirement for licensure as Plumbing Inspector ICS. The course is based on the New Jersey Uniform Construction Code as applied to Class II and Class III structures. It covers design, testing, and analysis techniques for evaluating water service, water distribution, and drainage systems. It also includes training in plan review and field inspection procedures and a study of New Jersey public health requirements.

UCC 160 ELEVATOR INSPECTOR HHS 6 Credits

This course is designed to satisfy the educational requirement for licensure as Elevator Inspector HHS (Hazardous and High-rise Structures). Instruction covers the subject areas specified by statute to ensure technical competence as applied to all structures. Subject areas that are covered include: Inspection and testing regulations, machinery and equipment, plan review, and inspection techniques.

UCC 220 BUILDING INSPECTOR HHS 4 Credits

This course is designed to satisfy the educational requirement for licensure as Building Inspector HHS (Hazardous and High-rise Structures). Instruction focuses on building technical competency in design analysis, materials and standards, and methods for securing compliance in advanced structural systems, advanced fire protection systems, and advanced mechanical systems, as applied to Class I and all other structures established in Subchapter 3 of the New Jersey Uniform Construction Code. Prerequisite: Completion of an educational program for Building Inspector ICS, or the equivalent.

UCC 230 ELECTRICAL INSPECTOR HHS 3 Credits

This course is designed to satisfy the educational requirement for licensure as Electrical Inspector HHS (Hazardous and High-rise Structures). The course is based on the New Jersey Uniform Construction Code and the National Electrical Code. It provides instruction intended to ensure technical competencies in advanced electrical systems, high-rise buildings, and hazardous locations identified in the electrical subcode. Prerequisite: Completion of an educational program meeting the requirements for Electrical Inspector ICS.

UCC 240 FIRE PROTECTION INSPECTOR HHS 4 Credits

This course is designed to satisfy the educational requirement for licensure as Fire Protection Inspector HHS (Hazardous and High-rise Structures). It provides the background of technical and administrative knowledge to effectively enforce the Uniform Construction Code at the local level, as applied to high-rise and hazardous structures. Prerequisite: Completion of an educational program meeting the requirements for Fire Protection Inspector ICS.

UCC 250 PLUMBING INSPECTOR HHS 4 Credits

This course is designed to satisfy the educational requirement for licensure as Plumbing Inspector HHS (Hazardous and High-rise Structures). The course is based on the New Jersey Uniform Construction Code and the National Plumbing Code. The course covers advanced plumbing system design and installation for Class I structures. Prerequisite: Completion of an educational program meeting the requirements for Plumbing Inspector ICS.

Uniform Fire Code

FSI 105 FIRE PREVENTION AND INSPECTION 6 Credits

This course examines the principles of fire prevention and inspection, with emphasis on the standards designed to protect lives and property from fire and explosion. Based upon the New Jersey Uniform Fire Codes, it covers the regulations, administrative aspects, and enforcement pro-

visions of life safety systems of buildings; safe use and maintenance of facilities; handling of hazardous materials; retrofit requirements of the code; and techniques for fire inspection and investigation. This course satisfies the education requirement for state certification of fire prevention inspectors.

FSI 205 FIRE OFFICIAL 3 Credits

This course is offered in conjunction with the New Jersey Division of Fire Safety. It provides a comprehensive review of the duties and responsibilities of an appointed Fire Official. It covers the organization and administration of a local enforcing agency as well as legal methods of code enforcement. This course is approved for credit toward Fire Official certification issued by the Department of Community Affairs pursuant to the Uniform Safety Act. This course is designed to assist fire service personnel, property managers, architects, engineers, builders, safety officials, and the public to understand the administrative requirements of the Uniform Fire Code, references standards, and enforcement procedures. Prerequisite: FSI 105.

Vision Care Technology

OPH 123 Vision Care Technology 4 Credits

This course teaches the use of basic lens measuring devices and gauges, LEAP system of blocking, and use of automatic and hand edging machinery. Standard frame alignment is presented using zyl frames. Students learn skills needed to fabricate a pair of eyeglasses including use of lensometers and vertometers, and laying out single vision lenses in preparation for edging and final insertion into zyl frames. Prerequisite: Formal acceptance into the program. Co-requisite: OPH 126. Laboratory fee.

OPH 124 OPHTHALMIC LABORATORY II 4 Credits

Laboratory "finishing" procedures are practiced, such as neutralization and duplication, layout, edging, beveling of single vision and bifocal lenses, and insertion of lenses into plastic and combination frames. Students also learn lens drilling and mounting in rimless and semi-rimless mountings, the use of both hand and automatic equipment related to the finishing operation, the identification of spectacle frames and patterns, and the use of the lens hardening oven. Repair of frames and temples, and the interpretation of shop orders are also covered. Prerequisite: "C" or better in OPH 123. Co-requisite: OPH 127. Laboratory fee.

OPH 126 OPHTHALMIC MATERIALS I 3 Credits

This course provides an introduction to the field of ophthalmic optics. The roles of the ophthalmic laboratory technician, ophthalmic dispenser, optometrist, and ophthalmologist are explained. The course continues with the history of lenses, basic optical terminology, lens characteristics, the metric system, and the refraction of light. Instruction also covers calculation of lens curvature, lens power, and prism. Students are introduced to the gross anatomy of the eye, and the use of optical charts and graphs. Prerequisite: Formal acceptance into the program. Co-requisite: OPH 123.

OPH 127 OPHTHALMIC MATERIALS II 3 Credits

This course is a continuation of OPH 126. It covers calculations and formulae to compute marked and true power, lens thickness, and the relation of center to edge thickness. Performance of higher power lenses and the importance of lens position are considered. The function of bifocal and multifocal lenses, and the proper management of their related optical effects are also considered. Lectures also cover optical standards, tolerances, and introductory information on absorptive lenses and their applications. Prerequisite: "C" or better in OPH 126. Co-requisite: OPH 124.

OPH 201 OPHTHALMIC DISPENSING I 5 Credits

This course examines professional ethics, practices, and responsibilities, followed by an evaluation of absorptive lenses and optical coatings. The calculation and elimination of vertical imbalance, by various methods, is thoroughly presented. Lecture and laboratory sessions include techniques in ocular and facial measurements for single vision, multifocals, and lenses to correct Aphakia. The course covers proper techniques in adjusting plastic and metal frames, and the neutralizing and analysis of completed spectacles. Practical problems are presented for students to solve, the goal being to develop the skills necessary at the dispensing table. Prerequisites: "C" or better in OPH 123, 124, 126, and 127, or placement.

OPH 202 OPHTHALMIC DISPENSING II 5 Credits

The psychology of dispensing is emphasized along with the procedures for proper management of the Presbyopic and low vision patient. The interpretation of complex prescriptions, i.e. the effect of changing lens position, crossing cylinders, and the design of Iseikonic lenses, is covered. Instruction is also offered in the fitting of progressive lenses and eyeglasses for occupational and vocational use, and in considerations of style and fashion. Lecture and laboratory sessions include techniques in adjusting metal and rimless frames, analyzing and neutralizing unknown spectacles, and frame repair. The class participates in simulated case histories. Prerequisite: "C" or better in OPH 201 or placement.

OPH 203 CONTACT LENSES I 3 Credits

This course provides an introduction to contact lenses. Topics covered include: the history of contact lenses, lens

materials, the anatomy and physiology of the cornea, and corneal topography and its relation to lens design. Instruction is also offered in the use of the Keratometer and Slit Lamp, and the procedures required in the design and inspection of hard contact lenses. Prerequisites: "C" or better in OPH 124 and OPH 127. Co-requisite: OPH 201 or placement. Laboratory fee.

OPH 204 CONTACT LENSES II **3 Credits**

Fitting requisites, lens-cornea relationships, and the fitting of soft contact lenses are presented. Emphasis is on lens parameters, residual astigmatism, and recognition of patient symptoms. The course covers extended wear, scleral, cosmetic, and therapeutic lens fitting methods, and also the signs, symptoms, and management of the Kerataconus patient. Instruction continues in the use of the Keratometer and Slit Lamp, and the basic fitting philosophy underlying rigid and gas permeable contact lens fitting. Refraction techniques are described and demonstrated. Prerequisite: "C" or better in OPH 203 or placement. Laboratory fee.

OPH 210 PRINCIPLES OF REFRACTION **3 Credits**

This course is designed to develop students' knowledge of clinical refraction. Topics covered include etiology, types, symptoms, testing, and treatment of refraction anomalies of the eye; accommodation; versions, vergences; anisometropia and aniseikonia; asthenopia; patient history; procedures involved in preliminary testing; objective and subjective refraction; and basic techniques in retinoscopy. Prerequisite: "C" or better in OPH 201 and PHY 111.

OPH 273 SUPERVISED CLINICAL EXPERIENCE **3 Credits**

This course offers students co-op experience, of which 20 percent is gained at the College's Ophthalmic Dispensary and the remaining, at a retail optical dispensary chosen from the department's approved site list. The entire hands-on experience is performed under the supervision of a licensed optician. Prerequisites: "C" or better in OPH 123, OPH 124, OPH 126, and OPH 127. Co-requisite: OPH 201 or OPH 202.

EXECUTIVE OFFICERS

A. Zachary Yamba	President
Vernell Patrick	Executive Vice President and Provost
June Persaud	Assistant to the President and Director of Board Affairs
Russell Frasch	Director of Business Affairs
Louis Genovese	Comptroller
Stephen Keister	Dean of Planning and Institutional Research
Felix Linfante	Dean of Instruction
Charles G. Lovallo	Dean of Community and Continuing Education
Susan Mulligan	Dean of Student Affairs
Jeannette Robinson	Director of Human Resources
Karen Tinebra	Director of Public Relations
Ladylease Goodridge White	Dean of Faculty

CHAIRPERSONS OF ACADEMIC DIVISIONS/DEPARTMENTS

Jill Stein (Acting Chair)	Division of Allied Health
Angel Millan	Department of Bilingual Studies
Jill Stein	Division of Biology and Chemistry
Michael King	Division of Business
Jianping Yue	Division of Engineering Technologies and Computer Sciences
(Vacant)	Division of Humanities
Carlos de la Torre	Division of Mathematics and Physics
Janet Czermak (Acting Chair)	Department of Nursing
Mamie Bridgeforth	Division of Social Sciences

FACULTY

Essex County College has both full-time and adjunct faculty members. All are expected to meet the same standards of academic preparation, course content, and dedication to students. In addition to a greater teaching load, full-time faculty have additional responsibilities, notably curriculum development, student advisement, and involvement in the life of the college.

The following is a list of faculty members, together with their credentials and their divisional or departmental assignment.

ABAVANA, MATILDA
Assistant Professor, Division of Business
B.A., Chartered Institute of Management Accountants
M.B.A., Fairleigh Dickinson University

ABOELNAGA, EMAN
Instructor, Division of Mathematics and Physics
B.S., Rutgers University
M.S., New Jersey Institute of Technology

ABU-HATAB, EZDEHAR
Instructor, Division of Biology and Chemistry
B.A., Rutgers University
M.S., Montclair State University

ACQUAYE, THEOPHILUS
Assistant Professor, Division of Engineering Technologies and Computer Sciences
B.S.M.E., University of Science and Technology, Ghana
M.S., McGill University, Canada

ALSTON, RICHARD
Assistant Professor, Division of Humanities
B.M., Julliard School of Music
M.M., Julliard School of Music

AMINZIA, NORBERT
Assistant Professor, Division of Mathematics and Physics
B.A., Seton Hall University
M.A., Seton Hall University
M.A., Jersey City State College

ANDRESKY, SHOHREH
Instructor, Division of Mathematics and Physics
B.A., Montclair State University
M.A., New Jersey City University

ANUFORO, PRISCA
Instructor, Department of Nursing
B.S.N., Kean University
M.S.N., Kean University

ASOBAYIRE, MARTIN
Assistant Professor, Division of Biology and Chemistry
A.S., Essex County College
B.A., Rutgers University
M.S., Montclair State University

ASSADIPOUR, HOSSEIN
Professor, Division of Engineering Technologies and Computer Sciences
B.S., Abadan Institute of Technology, Iran
M.S., Michigan Technological University
Ph.D., Michigan Technological University

BAGHERI, BAGHER
Instructor, Division of Biology and Chemistry
A.S., Essex County College
B.A., Rutgers University
M.A., University of Bridgeport

BANNON, RONALD
Assistant Professor, Division of Mathematics and Physics
B.F.A., New York University
M.S., Teachers College, Columbia University

BARTINIQUE, PATRICIA A.
Professor, Division of Humanities
B.A., Rutgers University
M.A., Purdue University
M.Ph., New York University

BATTLE, KATHLYN
Assistant Professor/Counselor, Division of Mathematics and Physics
B.S.S.W., Rutgers University
M.S.W., Rutgers University

BENN, DELORES
Instructor, Department of Nursing
B.S. N., Bloomfield College
M.S.N., Kean University

BENYARD, DAPHNE
Assistant Professor/Counselor, Division of Humanities
A.S., Essex County College
B.S., Upsala College
M.P.A., Rutgers University
M.A. New Jersey City University

BERNSTEIN, HARRY V.
Professor, Division of Business
B.B.A., Pace University
M.A., New York University

BERRY, DAVID A.
Professor, Division of Humanities
Special Assistant to the President
B.A., University of Rochester
M.A., University of Connecticut

BOGART, RICHARD
Associate Professor, Division of Humanities
B.A., Seton Hall University
M.A., Rutgers University

BRIDGEFORTH, MAMIE
Assistant Professor, Division of Social Sciences
A.A.S., Essex County College
B.A., Rutgers University
M.S.W., Rutgers University

BRUAN, MILA
Assistant Professor, Department of Bilingual Studies
B.A., University of Santo Tomas, Philippines
M.A., Institute of Hispanic Culture, Madrid, Spain

CAMPBELL, JAMES H.
Associate Professor, Division of Humanities
B.A., West Liberty College
M.A., West Virginia University

CARTER, LINDA
Assistant Professor, Division of Business
B.A., Rutgers University
J.D., Rutgers School of Law

CHESTNUT, JOSE
Associate Professor, Division of Biology and Chemistry
M.D., University Autonoma of Santa Domingo, Dominican Republic

CHUKUNTA, NIKI
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B.A. University of Tolouse, France
M.A., Rutgers University
Ed.D., Rutgers University

CLASS, LUZ
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B.A., Saint Peter's College
M.A., Jersey City State College

CRUZ, LAURA
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B.A., InterAmerican University
M.A., InterAmerican University

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M.S., Rutgers University

CZERMAK, JANET
Associate Professor, Department of Nursing
B.S.N., Fairleigh Dickinson University
M.S., Fairleigh Dickinson University
M.A., New York University

DAVIS, PATRICE
Assistant Professor, Division of Social Sciences
B.A., Swarthmore College
J.D., Harvard Law School

DeFREECE, EILEEN
Assistant Professor, Division of Humanities
B.A., Rutgers University
M.A., Rutgers University, Literature
M.A., Rutgers University, Creative Writing

de la TORRE, CARLOS
Associate Professor, Division of Mathematics and Physics
B.S., New Jersey Institute of Technology
M.S., New Jersey Institute of Technology

DEY, MARLENE
Associate Professor, Department of Nursing
B.S.N., Fairleigh Dickinson University
M.S.N., Seton Hall University

DOWNS, RICHARD M.
Professor, Division of Business
B.A., Harpur College, State University of New York at Binghampton
M.A., Syracuse University
Ed.D., Teachers College, Columbia University

DOYLE, BRENDAN M.
Assistant Professor, Division of Biology and Chemistry
B.S., Seton Hall University
M.S., Howard University

DOYLE, PAMELA
Instructor, Division of Biology and Chemistry
A.A.S, Westchester Community College
B.S., Fordham University
M.S., Long Island University

DRAKULICH, JOHN S.
Professor/Counselor, Division of Social Sciences
B.S., Arizona State University
M.A., Arizona State University
Ed.D., Rutgers University

DUROY, FRANK
Associate Professor, Division of Biology and Chemistry
B.A., Fairleigh Dickinson University
M.A., Montclair State University
Ed.D., Rutgers University

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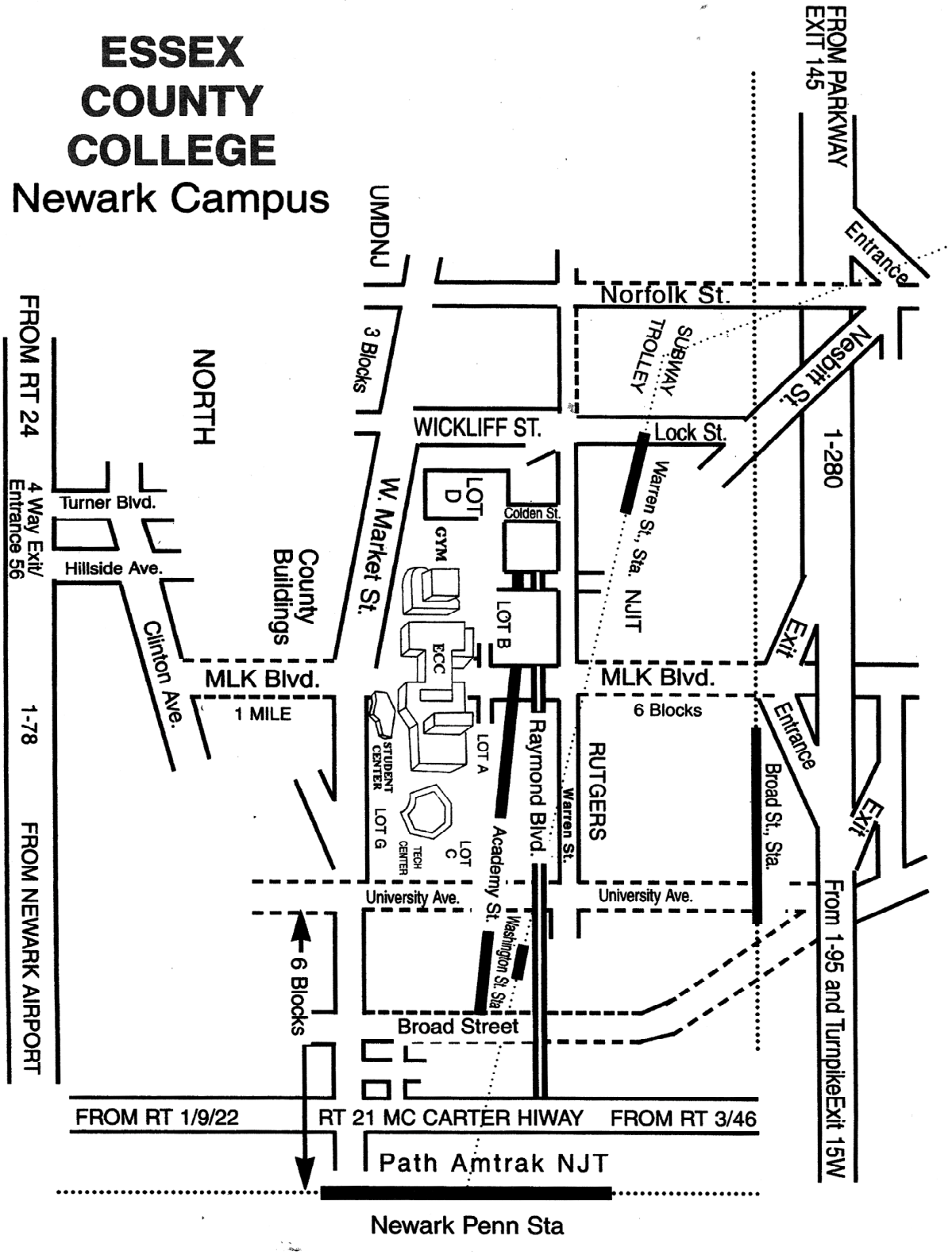
NJ TURNPIKE (I-95) TO ROUTE 280 WESTBOUND - Take NJ Turnpike exit 15 W and proceed on Route 280 westbound. After crossing the drawbridge, take the second Newark exit which is Martin Luther King Boulevard. Turn left onto King Blvd. and go through the fifth light at Warren Street. ECC campus is located on both sides of King Blvd. and extends to the West Market Street intersection.
(See GS Parkway directions for parking.)
FROM THE WEST OR EAST USING ROUTE 78 - Take Route 78 exit 56 (Clinton Avenue). Turn right onto Clinton Ave. and go less than a mile to Martin Luther King Jr. Boulevard. Turn left onto King Blvd. and proceed one mile to ECC campus which is located at the intersection of West Market Street. For parking, continue on King Blvd. to next light and turn left onto Warren Street. Go two blocks and turn left onto Colden Street and go one block to ECC Parking Lot D.
FROM OTHER HIGHWAYS - Highways 1 & 9, 22, 3, & 46 all connect with Route 21 which becomes McCarter Highway in Newark. At junction of McCarter Highway and Raymond Boulevard, turn left onto Raymond Blvd. and proceed to University Avenue. Turn left at University Ave., go to first light, and make right onto West Market Street. Proceed uphill to ECC campus which is located at the intersection of West Market St. and Martin Luther King Jr. Boulevard. Make right onto King Blvd. (See Route 78 directions for parking.)

BY PUBLIC TRANSPORTATION
AMTRAK, PATH, MOST NJ TRANSIT RAIL LINES TO NEWARK PENN STATION - At Penn Station, take the Newark City Subway to the second stop which is Washington Street. Follow signs to the University Avenue entrance to the ECC campus.
NJ TRANSIT MORRIS & ESSEX RAIL LINE - Get off at Newark (Broad Street). Walk seven blocks south on University Avenue to the ECC campus. You can also take NJ Transit bus #72 or #76, get off on University Ave. at Raymond Boulevard, and then walk one block south to ECC.
BUS TRANSPORTATION - More than 30 bus lines from suburban Essex County and other parts of the NJ/NY metropolitan area, inlcuding Newark Airport and New York City, come to downtown Newark. Follow signs to University Heights and ECC campus.

WEST ESSEX CAMPUS
730 Bloomfield Avenue, West Caldwell, NJ 07006 (973) 877-6590

BY CAR VIA MAJOR HIGHWAYS
ROUTE 80 EAST TO ROUTE 46 EAST - Follow Route 46 East until it divides at the sign for Newark/The Caldwells. Bear right at the sign and continue until the road becomes Bloomfield Avenue. Follow Bloomfield Avenue past Passaic Avenue. ECC is located on the right, just past the shopping center.
ROUTE 80 WEST - Take 80 West to exit 52 (Lincoln Park/Fairfield/The Caldwells). Keep bearing right at exit under the highway onto Passaic Avenue. Stay on Passaic Avenue and at the seventh traffic light make a left onto Bloomfield Avenue. ECC is located on the right, just past the shopping center.
GARDEN STATE PARKWAY TO ROUTE 280 WEST - Take GS Parkway North to exit 145 to Route 280 West. Proceed on 280 West to exit 5B (527 North, Caldwell). Continue on 527 (Livingston Avenue) to second traffic light. Turn right onto Eagle Rock Avenue and continue one block. Turn left onto Roseland Avenue. Follow Roseland Avenue until it ends at Bloomfield Avenue. Turn left onto Bloomfield Avenue and continue through five traffic lights. ECC is located on the left side of Bloomfield Avenue, immediately after the fifth light.
BLOOMFIELD AVENUE FROM NEWARK - Proceed on Bloomfield Avenue from Newark approximately 13 miles. Continue through Bloomfield, Glen Ridge, Montclair, Verona, and Caldwell into West Caldwell. ECC is located on the left, one block before Passaic Avenue intersection.

BY PUBLIC TRANSPORTATION
BUS FROM NEWARK - The #29 bus travels to the West Essex campus. Local lines connecting with the #29 at Broad Street Station in Newark are #13 (Broad/Clinton); #24 (Orange/Elizabeth); #27 (Mount Prospect); #38-48 (Harrison/Union); #40 (Kearny/Port Newark); and #52 (Park Avenue).
LOCAL NEWARK LINES - Connecting the #29 at other convenient locations: #7 - Newark City Subway connecting at Bloomfield Avenue in Newark; #11 - connecting at Route 23 and Bloomfield Avenue in Verona; and #20 or #34 - both connecting at Bloomfield Center in Bloomfield.


ESSEX
COUNTY
COLLEGE
Newark Campus
FROM PARKWAY
EXIT 145
Entrance
UMDNJ
Norfolk St.
SUBWAY
TROLLEY
Washington St.
3 Blocks
NORTH
WICKLIFF ST.
Lock St.
1-280
FROM RT 24
4 Way Exit/
Entrance 56
Turner Blvd.
W. Market St.
LOT D
Colden St.
Warren St., Sta. NJIT
GYM
Hillside Ave.
County
Buildings
LOT B
Exit
ECC
Clinton Ave.
MLK Blvd.
1 MILE
MLK Blvd.
6 Blocks
Entrance
STUDENT
CENTER
LOT A
Raymond Blvd.
RUTGERS
Broad St., Sta.
1-78
LOT G
TECH
CENTER
LOT
C
Warren St.
Exit
FROM NEWARK AIRPORT
University Ave.
University Ave.
Academy St.
Washington St. Sta.
From 1-95 and TurnpikeExit 15W
6 Blocks
Broad Street
FROM RT 1/9/22
RT 21 MC CARTER HIWAY
FROM RT 3/46
Path Amtrak NJT
Newark Penn Sta

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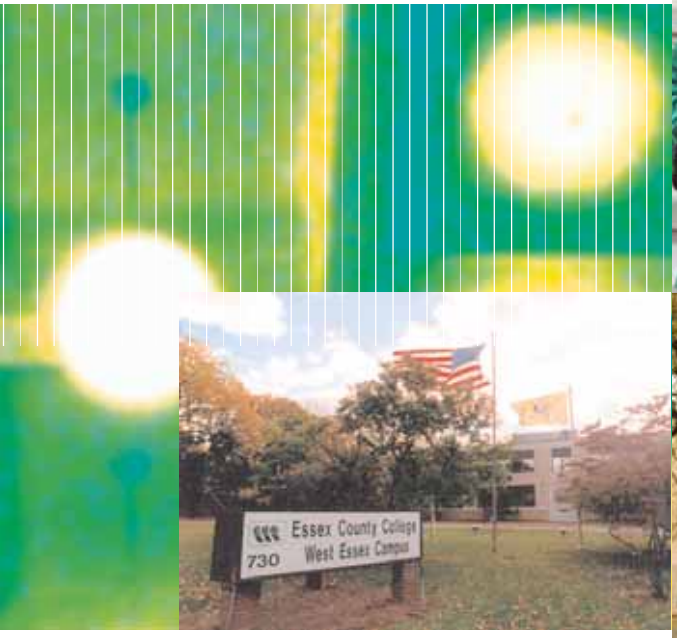

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DESIGN: ALJIRA DESIGN