

FOREWORD

This catalog has been prepared to meet the informational needs of students, faculty, and administration regarding the College's academic programs, policies and services. Naturally, some of the information will change, and new information will be introduced before the next catalog is printed. Because this is a two-year catalog, a supplement will be issued in July 1994. It will include updated information on academic programs, calendars, tuition and fees, policies, and services. The supplement will be distributed to students, faculty, and the administration.

NOTICE

The information contained herein is for the 1993-95 academic years. However, program requirements, courses, policies, tuition, fees, and procedures are subject to change as circumstances and exigencies require.

VISITORS

Directions are available at the Campus Police Headquarters at the entrance to the College on Mill Road. All visitors may obtain a visitor's pass at the headquarters, entitling them to park in designated parking lots.

AFFIRMATIVE ACTION AND COMPLIANCE STATEMENT

Middlesex County College is firmly committed to a policy of Equal Opportunity and Affirmative Action. The College will implement this policy to assure that the educational programs, activities, services, benefits and employment opportunities offered by the College are available to all persons regardless of race, color, national or ethnic origin, ancestry, age, religion, sex, affectional or sexual orientation, marital status, veteran status or disability in accordance with applicable State and Federal laws. Inquiries regarding compliance may be directed to the Affirmative Action Office, Middlesex County College, Academic Services Building, Edison, New Jersey 08818-3050.

ADDRESS

Middlesex County College
155 Mill Road
P.O. Box 3050
Edison, New Jersey 08818-3050

TELEPHONE DIRECTORY: (908) 548-6000

| Office | Building | Telephone |
|---|---------------------------------|------------------|
| Academic Advising Center | Johnson Learning Center | 906-2596 |
| Admissions | Academic Services | 906-2510 |
| Continuing Studies: | Academic Services | 906-2509 |
| Part-time, Winter, and Summer Study | | |
| Community Education | West Hall | 906-2556 |
| Counseling and Placement Services | Edison Hall | 906-2546 |
| Financial Aid Office | Academic Services | 906-2520 |
| Physical Education Center/Athletics | Physical Education Center | 906-2588 |
| Registrar's Office | Academic Services | 906-2523 |
| Testing | Johnson Learning Center | 906-2508 |

Middlesex County College is sponsored by the Citizens of Middlesex County through the Board of Chosen Freeholders.



CALENDAR

FALL 1993

| | | |
|-----------|-------------|---|
| August | 31 | Faculty Orientation and Meetings – First Day of Faculty Obligation |
| September | 1 & 2 | Change of Program; New Student Orientation and Advisement by Faculty |
| | 6 | Labor Day – Holiday Observed |
| | 7 | Classes Begin – Fall Semester |
| | 20 | Last Day to Change Status of Course to Audit |
| October | 11 | Columbus Day – Holiday Observed |
| | 26 | Mid-Semester |
| November | 9 | Last Day to Withdraw Without an Evaluation |
| | 11 | Veterans Day – Holiday Observed |
| | 25 & 26 | Thanksgiving Day – Holidays Observed |
| December | 8 | Last Day to Withdraw From Classes |
| | 17 | Last Day of Classes – Fall Semester |
| | 18, 20 & 21 | Specially Scheduled Final Exams |
| | 23 | Winter Recess Begins |
| January | 3 | Wintersession 1993 Begins |

SPRING 1994

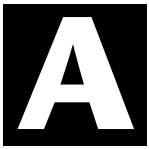
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|----------|-------------|--|
| January | 17 | Martin Luther King Day – Holiday Observed |
| | 19 | Faculty Orientation and Meetings – First Day of Faculty Obligation, Spring semester |
| | 20 & 21 | Change of Program; New Student Orientation and Advisement by Faculty |
| | 24 | Classes Begin – Spring Semester |
| February | 5 | Last Day to Change Status of Course to Audit |
| | 21 | Presidents’ Day – Holiday Observed |
| March | 14 | Mid-Semester |
| | 19 | Spring Recess Begins |
| | 28 | Classes Resume |
| April | 1 | Holiday Observed |
| | 5 | Last Day to Withdraw Without an Evaluation |
| | 29 | Last Day to Withdraw From Classes |
| May | 10 | Last Day of Classes – Spring Semester |
| | 11 | Reading Day |
| | 12, 13 & 14 | Specially Scheduled Final Exams |
| | 19 | Student Academic Status Review |
| | 25 | Graduation |



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VIEW FROM THE TOP

In a world in which the only constant is change, your college education is the single most important investment you can make in your future.

Your choice of college is a critical decision because it will lay the foundation upon which you will build as you prepare to meet the challenges of a highly technological world. In selecting a college, whether for one course or for a full-time program, you should look for quality, flexibility and adaptability. These are the ingredients that will make your college experience today one that will serve your needs tomorrow. Whether you are just starting out, changing careers, or seeking to develop your fullest potential on your current job, we can help you.

As the president of one of the oldest community colleges in the state, I am particularly proud of our heritage and history of academic excellence and growth. With 27 years of excellence behind us, we combine high quality programs with a warm, friendly atmosphere. Our experienced faculty, drawn from the experts in their respective fields, and our dedicated student services and support staff all are committed to only one goal—the well-being and academic success of our students.

We are proud of our record of achievement. The successes of our graduates are proof of our endeavors.

As Middlesex County and the nation grow in technological sophistication, we also continue to grow in our offerings of education and training programs. We are an educational leader—

preparing more than 125,000 students for success. More than 20,000 area residents have earned associate degrees or certificates in one of our 48 curricula. MCC enjoys transfer, credit articulation and dual degree agreements with many of the nation's best four-year colleges and universities including Rutgers, NJIT, NYU and Fairleigh Dickinson. Our credit and non-credit courses are offered on our 200-acre Edison campus and throughout the county in locations convenient to residents and businesses.

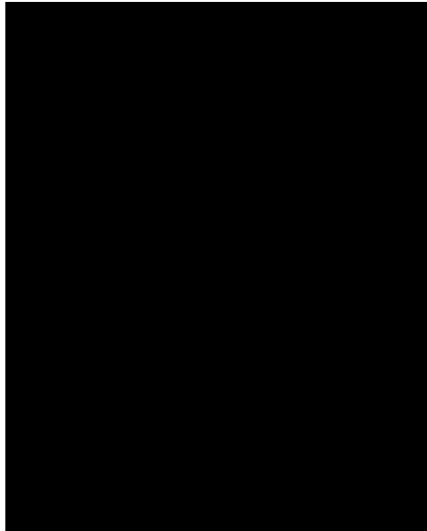
Regardless of who you are, Middlesex County College has programs and services tailored to meet your needs. We offer individualized education and training programs, financial aid and tutorial assistance, job placement and child care services, opportunities to study full and part-time during the day or in the evening.

Our single most important commitment is to our students. Your success is the yardstick we use to measure our worth. We pledge our total support to you in providing an education that will enable you to reach your goals in life.

On behalf of the entire college community, I extend a warm invitation to you to join us at Middlesex in building a bridge to the future where you can become all that you are capable of becoming.

Sincerely,

Flora Mancuso Edwards
President



M ISSION, GOALS AND OBJECTIVES OF MIDDLESEX COUNTY COLLEGE

MISSION

Middlesex County College is a publicly-supported, comprehensive community college committed to serving all of those who can benefit from post-secondary learning opportunities. The College offers a wide range of curricula and programs that provide access to the educational process in a lifelong learning context for diverse populations within its service area. The College views the creation of an environment responsive to the educational needs of the individual and the community as essential to the fulfillment of this mission.

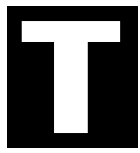
In order to accomplish this mission, the College sets for itself the following goals and objectives:

GOALS

- To offer programs that prepare students both for immediate employment and for continuing career education.
- To provide programs which prepare students for transfer to four-year colleges and universities.
- To provide general education which fosters students' understanding of the diversity of human knowledge and contributes to the development of intellectual, personal, and social skills and values among them.
- To provide programs and services to meet the training and educational needs of local businesses.
- To provide a comprehensive range of student services which promotes the access, development, and placement of students in the college and the community.
- To foster the pursuit of lifelong learning among students.
- To foster self-awareness, personal growth, and career planning and development among students.
- To provide access to education for a diverse community population.
- To play a significant role in enhancing the social, cultural, recreational, and economic life of the community.
- To promote and maintain among the college community a sense of ethical values and high standards of performance.
- To promote among the college community an understanding and respect for people from diverse backgrounds and cultures.

OBJECTIVES

- To provide instructional approaches which accommodate differences in student needs and abilities.
- To set admission policies and tuition rates which allow the community easy access to programs and services in the college.
- To maintain an ongoing assessment of community needs.
- To offer basic skills and developmental programs, as well as special services to meet the needs of traditional and non-traditional students.
- To reassess periodically curricular requirements and offerings to reflect contemporary needs, interests, and priorities.
- To develop students' abilities to define and solve problems through analytical thinking and the synthesizing of knowledge from a variety of sources.
- To encourage student involvement and leadership through collegiate governance and co-curricular activities.
- To develop students' abilities to think clearly and use language effectively through instructional and co-curricular programs.
- To provide counseling and advisement services responsive to the educational needs of students.
- To maintain a staff development and evaluation programs for administrative personnel, faculty, and staff which are responsive to the College's needs.
- To maintain a climate of mutual trust among students, faculty, administrators, and the Board of Trustees in which communication is open and candid.
- To involve faculty, staff and students in determining college policies affecting them.
- To foster within the academic community an understanding of global issues, needs of diverse populations, and their impact upon a broad variety of disciplines.
- To evaluate and provide evidence, on an on-going basis, that the College is achieving its stated goals and objectives.



THE COLLEGE IN BRIEF

Community makes the community college different, more relevant to the needs of the people. Middlesex County College, a community college, opened its doors to students for the first time in September 1966. The College, a two-year publicly supported coeducational institution, developed under a program of the New Jersey Department of Higher Education, is sponsored by the people of Middlesex County through the Board of Chosen Freeholders. It attracts a diverse student body and makes an effort to respond to the special needs of individuals.

The College offers more than 550 courses, including cooperative work experiences, clinical involvement, and laboratory assignments that parallel classroom studies. Students learn by doing. Men and women of all ages who are involved in courses of study during the days, evenings, and weekends within programs of both short and long duration find that learning by doing helps them understand intellectual concepts more fully. They are also reassured that academic preparation can be applied to earning a living, as well as for personal enrichment.

Career education is relevant to men and women because students have options to extend their formal education or to proceed to gainful employment. The development of technical skills, as well as conceptual knowledge and the improvement of critical thinking, best prepares graduates and other students for living and the world of work.

The community college is an educational center to upgrade skills, expand knowledge, stimulate critical thought, and help people achieve personal goals.

ACCREDITATION

Middlesex County College is accredited by the Middle States Association of Colleges and Secondary Schools.

The Dental Hygiene program is accredited by the Commission on Dental Accreditation of the American Dental Association.

The Medical Laboratory Technician program is accredited by the American Medical Association Committee on Allied Health Education and Accreditation and the National Association for Accreditation of Clinical Laboratory Sciences.

The Radiography Education program is accredited by the New Jersey Department of Environmental Protection and Energy and the American Medical Association Committee on Allied Health Education and Accreditation.

The associate degree programs in Civil/Construction Engineering Technology, Electrical Engineering Technology, and Mechanical Engineering Technology are accredited by the Technology Accreditation Commission of ABET-Accreditation Board for Engineering and Technology.

The Dietetic Technology Program is approved by the American Dietetic Association and the Dietary Managers Association.

The Legal Assistant Program is approved by the American Bar Association.

APPROVAL

Middlesex County College is approved by the New Jersey State Department of Higher Education to offer the associate in arts, associate in science, and associate in applied science degrees.

FACILITIES

The College's 200-acre site is lined with trees, plantings, and walkways, and the buildings are of modern design. The architecturally-striking library holds 75,000 books and issues of 750 periodicals and newspapers, multi-media facilities, and comfortable study areas. The Performing Arts Center seats 440, the Physical Education Center has a 25-meter swimming pool, an indoor track and racquetball courts. There are 21 outdoor tennis courts adjacent to the campus in the park. The classrooms and laboratories provide modern facilities for lectures and hands-on technical training. On-site child care is available days and evenings.

The College offers courses throughout the county at various industrial and educational sites. There are two Community Career Centers. One is located at 133 New Brunswick Avenue, Perth Amboy, the other at Plaza Two, 317 George Street, New Brunswick.

COLLEGE GOVERNANCE

In addition to the regular administrative organization of the college, a governance system allows students to participate in the decision-making process regarding academic policy, student life, and college affairs in general. This system incorporates the College Assembly, its various task forces and the Academic Divisional Councils.

COLLEGE ASSEMBLY

The College Assembly is the college-wide body of students, faculty and administrators charged to make recommendations to the President regarding academic, student and other college affairs. Students, chairpersons/directors, and faculty members of the Assembly are nominated and elected through the Divisional Councils and appointed by the chairperson of the Assembly. Students interested in participating in the Assembly should contact the Assembly chairperson (through the office of the Assembly, Raritan Hall Room 122, X3085), the chairperson of his/her Divisional Council or the Division Dean. The Assembly meets on the first Thursdays in October, November, December, February, March, April and May.

TASK FORCES

Task Forces are committees of the College Assembly established to deal with specific areas or issues. The standing task forces of the College Assembly include: Academic Standards, Accessibility for Persons with Disabilities Curriculum, Educational Resources, General Education, Student Life and Community Concerns, Bylaws. The Assembly also recommends the appointment of students to the Retail Services Corporation, Alcohol Review Board, Judicial Board and Traffic Appeal Board. Students interested in participating in any of these task forces or other organizations should, again, contact the chairperson of their Divisional Council, or their Division Dean. Student elections for these governance positions are held annually in February by the respective divisions.

ALUMNI ASSOCIATION

More than 17,000 alumni of Middlesex County College live in New Jersey, throughout the United States, and in several foreign countries. These alumni are united in an association to maintain mutually beneficial relations between Middlesex County College and its alumni, and promotes the interests of the College.

The Association, through a quarterly newsletter, the Alumni Pipeline, keeps alumni aware of developments at the College and provides news of classmates. The Association also coordinates social functions such as group trips and reunions, as well as special services like career enhancement workshops, insurance plans, and the semiannual phon-a-thon.

The Association is a non-profit corporation of the State of New Jersey and is governed by a Board of Trustees comprising members elected by the alumni and appointees of the College's President. The day-to-day activities of the Association are the responsibility of the Director, who responds to inquiries and assists alumni in many ways, such as reunion efforts and event planning.

All graduates of degree or certificate programs at Middlesex County College, as well as non-graduates who have successfully completed 60 credits, are automatically members of the Association.

MCC FOUNDATION

The Middlesex County College Foundation was formed in 1966 to raise private support for the College. Over the years, the Foundation has helped thousands of students reach their personal and academic goals by providing financial aid and scholarships. In 1984, the Foundation began an ambitious \$10 million Endowment Campaign called Funding for the Future. Currently, the campaign has raised, for the College, nearly four million dollars. Interest earned on these contributions is used for need-based and merit scholarships, seed money for new and innovative student programs and services, and Alumni Association support.

Each year, the Foundation allocates more than \$200,000 to the College for financial aid and special programs. The Foundation depends on the strong support of a dedicated Board of Directors made up of nearly 100

directors and trustees. The Foundation also holds three fund-raising events annually: the Scholarship Ball, the Night at the Races, and the Golf Festival, which generate more than \$143,000 a year for the Foundation.

COMMUNITY COLLEGE GUARANTEE OF QUALITY EDUCATION

New Jersey's community colleges are committed to providing quality educational programs supported by excellent career advising and superior student services. The Guarantee of Quality Education reaffirms the community college commitment of excellence to our students and to employers that hire our graduates.

The Guarantee

If a graduate is not demonstrating acceptable job skills, as judged by an employer, that graduate will be provided up to three tuition-free courses of additional skill training under conditions of the guarantee policy. The graduate must have earned an associate in applied science (A.A.S.) degree in the Spring of 1994 or thereafter in a career program identified in the college's catalog or other college publications.

The guarantee applies only to graduates employed on a full-time basis in jobs which are directly related to their program of study, as certified by the campus chief academic officer or his/her designee. Employment must begin within 12 months of graduation.

The cost of books, insurance, uniforms, fees, and other course related expenses are the responsibility of the graduate and/or employer.

Special Conditions

1. The graduate must have completed the program with a majority of the occupational credits being earned at the college.
2. The employer must:
 - Certify in writing that the employee is not demonstrating entry-level skills guaranteed by the college;
 - Specify the areas of deficiency within 90 days of the graduate's initial employment; and
 - Develop a written educational plan for retraining in cooperation with the appropriate academic department at the college.
3. Retraining will be limited to three courses related to the identified skill deficiencies and to those classes regularly scheduled during the period covered by the training plan. All courses must be completed within 12 months from the time that the education plan is approved.
4. The guarantee does not imply that the graduate will pass any licensing or qualifying examination for a particular career.

Nothing in this document shall be construed to impose any obligation upon Middlesex County College or create the basis for any claim or liability against Middlesex County College. The College's obligation shall be limited to the retraining set forth under the conditions stated.





PROGRAM OFFERINGS

DIVISION OF BUSINESS TECHNOLOGIES

Degree Programs:

Accounting
 Business Administration Transfer
 Dietetic Technology
 Fashion Merchandising and Retail Management
 Hotel, Restaurant, and Institution Management
Options in:
 Hotel/Motel Management
 Restaurant/Food Service Management
 Legal Assistant Management
Options in:
 Credit and Financial Management**
 Management**
 Marketing
Options in:
 Marketing
 Materials Management
 Transportation and Distribution
 Marketing Art and Design
Options in:
 Advertising Graphics Design
 Professional Commercial Photography
 Office Systems Technology

Certificate Programs:

Food Preparation
 Legal Assistant
 Management Support Services
 Materials Management
 Office Systems Technology
 Transportation and Distribution

DIVISION OF ENGINEERING TECHNOLOGIES AND SCIENCE

Degree Programs:

Automotive Technology*
 Biological Laboratory Technology
 Chemical Technology
 Civil/Construction Engineering Technology
Option in:
 Surveying Technology
 Computer Integrated Manufacturing Technology
 Computer Science (Information Systems)
 Electrical Engineering Technology
Option in:
 Computer Electronics
 Environmental Technology**
 Fire Science Technology**
 Heating, Ventilating and Air Conditioning Design Technology (An Energy Technology Program)
 Industrial Technology
 Mechanical Engineering Technology (Design)
 Engineering Science
 Science Transfer
Options in:
 Biology
 Chemistry
 Computer Science
 Mathematics
 Physics

Certificate Programs:

Basic Fire Science
 Civil/Construction Engineering Technology
 Chemical Technology
 Computer Programming
 Electrical Engineering Technology
 Heating, Ventilating and Air Conditioning Design Technology
 Industrial Technology
 Mechanical Engineering Technology
 Mechanical Computer Aided Drafting
 Surveying Technology

DIVISION OF HEALTH

TECHNOLOGIES

Degree Programs:

Dental Hygiene*
 Medical Laboratory Technology*
 Nursing—Joint Program with UMDNJ
 Psycho-Social Rehabilitation and Treatment—Joint Program with UMDNJ
 Radiography Education*

DIVISION OF SOCIAL SCIENCES AND HUMANITIES

Degree Programs:

Liberal Arts
Options in:
 Business
 Communication
 English
 History
 Honors
 Journalism
 Liberal Arts—General
 Liberal Arts—Business
 Modern Languages
 Music
 Physical Education/Recreation
 Political Science
 Psychology
 Social and Rehabilitation Services
 Social Sciences
 Sociology
 Theatre
 Visual Arts
 Education Technology
Options in:
 Assistant in Early Childhood Education
 Assistant in Special Education
 Teacher Assistant
 Criminal Justice
Options in:
 Correction Administration**
 Police Science

Certificate Programs:

Correction Administration**
 Teacher Aide

Programs are generally offered during the day or in the evening; exceptions are noted as follows:

*Certain major courses offered only in the day.

**Certain major courses offered only in the evening.



GENERAL INFORMATION

OFFICE OF ADMISSIONS AND RECRUITMENT

The Office of Admissions and recruitment recruits students for full-time and part-time study. Staff members visit area high schools, community agencies, shopping malls, business and industrial sites, libraries, the Middlesex County Fair, and other festivals to present the information about the College's programs.

Staff members review applications and documents, and make admissions decisions. As appropriate, admissions counselors meet with prospective students to discuss program requirements and related matters.

ADMISSION

The admissions policy of Middlesex County College is based on the premise that the College should provide an opportunity for further education to all citizens of the community. Enrollment is open to:

- High school graduates
- Persons who have successfully met the criteria for an equivalency diploma
- Non-high school graduates who are 18 years of age or older,
or
- High school seniors who may enroll on a part-time basis upon the recommendation of the high school guidance counselor and approval of the dean of the Division of Continuing Education and Instructional Resources

Admission is to the College. In conjunction with the faculty, a program of study is designed to meet students' personal educational objectives and satisfy graduation requirements. Admission to programs that specify additional selective criteria may require a review of prior educational performance, standardized test scores, the completion of an appropriate developmental program, or where suitable, applicants' aptitude and interest as determined during an admissions counseling interview. It should be noted that admission may necessarily be restricted by facility and/or staff availability, or the assessed needs of the community and employment opportunity.

Upon meeting the enrollment needs of county residents, admission will be extended to residents outside Middlesex County.

ADMISSION PROCEDURES AND ADVISEMENT

Prospective students may obtain the appropriate application materials by contacting the Office of Admissions and

Recruitment by telephone, mail, or in person. Completed forms should be returned directly to the Office of Admissions and Recruitment along with the appropriate application fee.

Professional counselors and advisors are available to assist applicants in the selection of a plan of study. Students have the flexibility to determine if they wish to pursue a specific degree program or a general program of study on either a full-time or part-time basis. Questions regarding any aspect of the College, particularly application status, should be directed to the Office of Admissions and Recruitment.

Application Procedures for Full- or Part-time Study

All applicants for full- or part-time study must return the following items:

1. A check or money order for \$25.00 made payable to Middlesex County College. This is a non-refundable fee.
2. A completed Application for Admission Form.

Applicants who are declaring a major for a degree or certificate program must also submit the following documents:

3. High school transcripts. Applicants must request their high school guidance office to forward an official copy of their transcript to the Office of Admissions and Recruitment.
4. GED scores (where applicable). Applicants who hold a high school equivalency diploma must present scores from the GED test.
5. College transcripts (where applicable). Applicants must have each previous postsecondary school and/or college send an official transcript directly to the Office of Admissions and Recruitment.

Special Notice: Applicants for Dental Hygiene, Medical Laboratory Technology, Nursing — Joint Program with UMDNJ, and Radiography Education for Fall 1994 must submit an application by December 31, 1993. For more information, call the Office Admissions and Recruitment at (908) 906-2510.

International Students

Middlesex County College is authorized under federal law to enroll non-immigrant alien students. International applicants must follow degree programs as full-time students if they require a Certificate of Eligibility (Form 1-20). See page 22 for further information.

Students from other countries apply to Middlesex County College in the same way as all other students. In addition



to admission requirements for other students, international students must submit:

1. Official transcripts or official, notarized copies of all certificates, diplomas, etc., obtained in secondary schools or previous college studies. These transcripts must be translated into English before they are submitted and the translation notarized and otherwise attested.
2. An additional credentials evaluation fee may be required by the College. This fee covers the cost of evaluation of foreign secondary school and college transcripts by a private agency. A copy of this evaluation will be provided upon request. In some cases, the services of an outside agency may not be required.
3. Results of the Test of English as a Foreign Language (TOEFL) by applicants from non-English-speaking countries. The reporting number of Middlesex County College is 2441.
4. Documentary evidence of sufficient funds for college and living expenses in the United States. Applicants must complete the Declaration of Finances statement issued by the College. A sponsor who is a U.S. citizen or permanent resident must complete 3 copies of the Affidavit of Support form which is also supplied by the College.
5. All non-immigrant students are required to advise the College of their visa status on the application for admission or the part-time student registration form.
6. **IMPORTANT:** Because of the extensive paperwork and time required for mailing, international applicants should apply well in advance of deadlines. Completed applications and all required support documents must be received by the dates indicated:
by June 1 for the Fall semester
by November 15 for the Spring semester

International students are not eligible for federal work study grants, nor is there any financial aid or scholarship program for international students.

Living accommodations are not provided by the College on or off campus. Some international students with visas other than F-1 may be eligible for admission subject to approval by the Director of Admissions. For information on Counseling for International Students, see page 22.

CRITERIA AND PROCEDURES FOR ADMISSION

Rolling Admissions

For all programs except Dental Hygiene, Medical Laboratory Technology, Nursing, Radiography Education, and Automotive Technology, completed applications are reviewed continually. The College admits qualified applicants (THOSE WHO HAVE COMPLETED ALL REQUIRED COURSE PREREQUISITES WITH GRADES OF C OR HIGHER) until each curriculum is filled. Prospective students can expect to receive written notification of their status beginning in November.

Curricula Which Have Required Course Prerequisites.*

* These courses must be completed with a grade of C or better.

SOCIAL SCIENCES AND HUMANITIES

Criminal Justice

Education Technology

Liberal Arts

1. two years of high school mathematics or algebra I
2. one year of laboratory science

BUSINESS TECHNOLOGIES

Business Administration Transfer

1. algebra I, algebra II and geometry
2. one year laboratory science

Dietetic Technology

one year of laboratory science

SCIENCE TECHNOLOGIES

Biological Technology

Chemical Technology

Environmental Technology

1. algebra I
2. one year of laboratory science

ENGINEERING TECHNOLOGIES

Automotive Technology

algebra I

Computer Science

Computer and Information Systems

algebra I and II

Heating, Ventilating and Air Conditioning Design Technology

algebra I, or two years of related math from Middlesex County Vo-Tech High School

Civil/Construction Engineering Technology

Computer Integrated Manufacturing

Electrical Engineering Technology

Mechanical Engineering Technology

algebra I and II; geometry

ENGINEERING SCIENCE AND SCIENCE TRANSFER

Engineering Science

1. algebra I and II; geometry; advanced algebra and trigonometry
2. laboratory chemistry and laboratory physics

Science Transfer

Biology

Chemistry

Computer Science

Mathematics

1. algebra I and II; geometry
2. laboratory chemistry and one additional year of laboratory science

Physics

1. algebra I and II; geometry; advanced algebra and trigonometry
2. laboratory chemistry and laboratory physics

HEALTH TECHNOLOGIES

Dental Hygiene

1. laboratory biology and laboratory chemistry
2. algebra I
3. CPR certification

Medical Laboratory Technology

1. algebra I
2. laboratory biology and laboratory chemistry

Nursing - Joint Program with UMDNJ

1. laboratory biology and laboratory chemistry with a minimum grade of C
2. algebra I with a minimum grade of C
3. CPR certification

Psycho-Social Rehabilitation and Treatment

one year of laboratory science

Radiography Education

1. algebra I with a minimum grade of C
2. laboratory biology with a minimum grade of C
3. laboratory chemistry with a minimum grade of C

Health Technology Applicants

Applicants to Health Technology programs must take aptitude tests and score above the cutoff scores established by the College. Any remediation must be completed before applicants will be considered for admission to Health Technology programs.

All Programs

Once applicants are admitted to MCC, they receive a letter of admission. Tuition will be due approximately 30 days after registration if students register by August 1. Students who register after August 1 must pay the balance of tuition by the end of the first week of classes. Students who register the week before classes must pay when they register.

Applicants who need to take or repeat courses in reading, writing, math, or science are scheduled to meet with a faculty advisor. Together they develop a plan of study which will include the needed courses.

Mid-Year Admission

Students who intend to begin full-time study in the Spring semester should note that only the following majors begin both in the Fall and Spring: Accounting, Business Administration Transfer, Criminal Justice, Dietetic Technology, Hotel, Restaurant and Institution Management, Legal Assistant, Liberal Arts, Marketing, Open College, and Retail Management and Merchandising. For further information call the Office of Admissions and Recruitment at 906-2510.

Change of Curriculum

Students may change their curriculum providing eligibility requirements are met and there is space in the curriculum. Students who change their curriculum to Automotive Technology, Dental Hygiene and Nursing must file an Application for Full-Time Admission with the Office of Admissions and Recruitment. Open College students who change to a degree or certificate program must

contact the Office of Admissions and Recruitment. All others must submit to the Registrar's Office a Request for Change form signed by the Dean of the academic division which administers the new curriculum.

COLLEGE CREDIT FOR PREVIOUS EXPERIENCE

Advanced Standing

Previous College Credit

Applicants who have attended another college must submit official transcripts of all such work to the Office of Admissions and Recruitment. Transfer credit, subject to the approval of the Dean of the division, is generally defined as coursework required in the curriculum and equivalent in content and credit hours to courses offered by Middlesex County College. Only letter grades of C and above are accepted.

Students seeking transfer credit for courses taken at a foreign institution should refer to page 10.

Advanced Placement

The College may grant credit for Advanced Placement Examinations (minimum grade of 3).

The Advanced Placement Program, sponsored by the College Entrance Examination Board, offers students the opportunity to pursue college-level study while in secondary school and receive advanced placement and/or credit upon entering college.

Upon successful completion of the AP exam, applicants should have the official scores sent to the Registrar's Office for evaluation. These scores can be sent by writing to:

Advanced Placement Examination Program
College Entrance Examination Board
Princeton, NJ 08541-6671

Certified Professional Secretary Certificate

The College grants up to 20 credits for achievement of the Certified Professional Secretary Certificate. The Certificate is awarded by The Institute for Certifying Secretaries, G10 Crown Center, 2440 Pershing Road, Kansas City, MO 64108.

Transfer credit will be granted for appropriate coursework in a program of study.

CREDIT FOR NONCOLLEGIATE EDUCATIONAL PROGRAMS

The College grants transfer credit for certain noncollegiate educational programs in accordance with the recommendation of the American Council on Education contained in *The National Guide* or *A Guide to Educational Programs in Noncollegiate Organizations*. These credits are granted consistent with graduation requirements for college-level courses as determined by responsible academic departments with the concurrent approvals of the chairperson and dean.

CREDIT FOR EDUCATIONAL EXPERIENCES IN THE ARMED SERVICES

The College grants transfer credit for coursework taken in the armed services in accordance with the recommendations of the American Council on Education contained in *A Guide to the Evaluation of Educational Experiences in the Armed Services*. These credits are granted consistent with graduation requirements for college-level courses as determined by responsible academic departments with the concurrent approvals of the chairperson and dean.

The College believes that physical education concepts and skills are developed through appropriate course offerings. These essential offerings are directed toward a lifelong pursuit to ensure wellness and wise use of leisure time. For this reason basic military training is not accepted as a waiver or for credit toward physical education courses.

COLLEGE CREDIT BY EXAMINATION

There are several programs at the College through which applicants may earn credit for knowledge gained in nontraditional ways. Both the Credit by Examination Program (CBE) and the College Level Examination Program (CLEP), described below, are such programs.

Applicants and others in the community, including students at the College, are eligible for these programs. For instance:

- Anyone who has had extended work experience and wishes to demonstrate it;
- Anyone who has taken courses at a non-accredited educational institution and wishes to receive college credit;
- Anyone who has taken courses through correspondence, television, adult education programs, or in the military service;

- Anyone who has done extensive independent study and wishes to receive college credit.

Applicants are encouraged to consult the Testing Center or a counselor in the Counseling and Placement Services Office about these programs to determine which program would best serve their needs.

The policies of four-year institutions vary with respect to accepting College Level Program (CLEP), Credit By Examination Program (CBE), and Defense Activity for Non-Traditional Education Support (DANTES) credits by examination. All applicants who plan to transfer from Middlesex County College are advised to consult the registrar at the prospective transfer college regarding the individual institution policy on accepting transfer credit earned by CLEP, CBE, and DANTES. Policy statements of those New Jersey colleges that have a formal policy on this matter are on file in Counseling and Placement Services.

Credit by Examination

This program provides the opportunity to achieve course credit for specific courses offered at the College. There are examinations for courses in every division at the College and the offerings are updated frequently. Information (including an application form, the current listing of courses offered through this program, and the test dates) is available in the Testing Center.

College-Level Examination Program

College credit can be awarded for the College Level Examination Program (CLEP) general examinations in the following areas: (1) English composition with essay, (2) natural science: biological science and physical science, (3) mathematics. The college may grant a maximum of six semester hours of credit for each examination completed with a percentile rating of 35 or above on the sophomore norms. The College is a CLEP Test Center. For further information, call the Testing Center, 906-2508.

EXPENSES

Tuition and Fees (*Subject to Change*)

Tuition

Tuition is charged by the credit

| | |
|----------------------------------|----------|
| Middlesex County Residents | \$ 54.75 |
| per credit or credit equivalent | |
| Out-of County Residents | \$109.50 |
| per credit or credit equivalent | |
| Out-of State Residents | \$109.50 |
| per credit or credit equivalent | |

Maximum Tuition

The maximum tuition charged per year and semester. Students who receive permission to register for more than 20 credits will be charged per credit tuition beyond this maximum.

*Maximum Annual Tuition

| | |
|--|-------------|
| Middlesex County Residents | \$ 1,314.00 |
| Out-of-County Residents | 2,628.00 |
| Out-of State Residents | 2,628.00 |
| Including non-immigrant alien students | |

*Maximum Semester Tuition

| | |
|---------------------------------------|-----------|
| Middlesex County Residents | \$ 876.00 |
| Out-of-County Residents | 1,752.00 |
| Out-of-State Residents | |
| Includes non-immigrant alien students | |

NOTE: Enrollment for fewer than 16 credits will result in correspondingly lower charges.

*Students who receive permission to register for more than 20 credits will be charged per credit tuition beyond this maximum.

Fees

| | |
|--|---------|
| General Service | \$ 5.25 |
| (Non-refundable) per credit or credit equivalent | |
| Student Service | \$ 2.50 |
| per credit or credit equivalent | |

Student fees are used to promote social, cultural, and recreational activities for all students consistent with the broad objectives of the College. Students have the opportunity to experience a variety of topical programs in addition to regular classroom instruction.

DANTES Tests

Students who have taken United States Armed Forces Institute (USAFI)/Defense Agency for Non-Traditional education (DANTES) courses and/or tests in college-level subjects at other institutions may request that college credit be applied to their degree requirements at Middlesex County College. No final decision is made until the scores have been received from DANTES.

These scores may be sent to the Office of Admissions and Recruitment by writing:

Defense Activity for Non-Traditional Education Support
Educational Testing Service
Contract Representative for DANTES
Box 2819
Princeton, NJ 08541

Correspondence should include the student's military service number(s) and social security number.

College policy regarding USAFI/DANTES tests is as follows: The College will grant credit to students who achieve a rating of S (Satisfactory) or D (With Distinction) in USAFI/DANTES courses where the measure of achievement is an end-of-course test or a subject examination. Where the measure of achievement is a USAFI/DANTES Subject Standardized Test, the College may grant credit for a percentile rating of 35 or above.

The student fee is also used to provide necessary student services, such as the orientation program, intercollegiate athletics, information services such as the student handbook, and the provision and replacement of furnishings and equipment for student convenience areas—the lounges, dining areas, and library.

The president of the College is responsible for allocating the student fees necessary to meet these expenses. The president has delegated to the Director of Student Activities responsibility for that portion of the student fee allocated for social, cultural, and recreational activities. Final approval of all student fee expenditures must be granted by the College.

Course Fees

\$10 to \$100 per course with clinical, laboratory, computer, or other appropriate non-replaceable materials including energy uses. Refer to the schedule bulletins for specific information.

Promissory Note - Financial Aid Applicants

Admitted students unable to pay tuition due to financial hardship may apply for a promissory note according to the following procedures:

1. Students must submit the completed Free Application for Federal Student Aid (FAFSA) before determination of promissory note eligibility can be made.
2. Students applying for Stafford or Supplemental Loan for Students (SLS) loans and parents applying for Parent Loans for Students (PLUS) loans must submit evidence of loan processing.

3. Students determined eligible for aid, or upon evidence of loan processing, must sign a promissory note stating that they will satisfy their bill if their financial aid awards or loans do not come through.

For those students who have already received financial aid awards and returned the completed award papers, an application for a promissory note is not necessary as their financial aid will automatically be credited toward their bills.

Students not satisfying their bills with financial aid Grants or Student Loans must make payment at the end of the note period. Under special circumstances, the note may be extended.

Senior County Residents' Tuition Waiver

Any Middlesex County resident who is 65 years of age or older is eligible for a complete waiver of tuition providing that registration occurs after the commencement of the late registration period (no late fee will be assessed). Please note that student fees, motor vehicle decal fees, course fees, and all other College fees must be paid. They are not waived under any circumstance.

Residency Definitions

Residency is based on three criteria:

1. Location of permanent domicile.
2. Length of time at the permanent domicile.
3. Dependent or independent financial status.

The following information is helpful in interpreting the residency policy.

Dependent students are those who:

1. Reside with their parents or guardians for more than six consecutive weeks in the past or current year; or
2. Are dependent upon them for food, clothing, or shelter in the past or current year; or
3. Are claimed, or will be claimed, as dependent for income tax purposes for the past or current year.

Domicile means the place where persons have their true, fixed, permanent home and principal living establishment, and to which, whenever they are absent, they have the intention of returning. The domicile of dependent students is that of their parents or legal guardians. Residence established solely for the purpose of attending Middlesex County College does not fulfill the definition of domicile.

Independent students are those who:

1. Have not lived, and will not live with parents or guardians for more than six consecutive weeks in the past or current year; and
2. Have not received, and will not receive, financial assistance from parents of more than \$750 in support of any kind including food, clothing, and shelter in the past or current year.

Primary evidence of domicile includes the following:

1. A notarized affidavit by students setting forth their domicile; and

- For independent students, a copy of their New Jersey income tax return or evidence of withholding of this tax; or
- For dependent students, a copy of their parents' New Jersey income tax return or evidence of withholding of this tax.

Persons required to provide domicile may provide in addition to the above the following supplementary evidence: proof of voter registration, motor vehicle license and/or registration or other such documentation.

Residency Policy

Students maintaining a permanent domicile in Middlesex County for a period of at least 30 days immediately prior to the first day of classes are defined as **Middlesex County residents**. Students maintaining a permanent domicile in New Jersey but not in Middlesex County for at least 12 months immediately prior to the first day of classes are defined as **out-of-county residents**.

Students who have maintained a permanent domicile within New Jersey, for a period of less than 12 months immediately prior to the first day of classes are defined as **out-of-state residents**.

International Students

(Non-Immigrant Alien Students) Students whose permanent domicile is outside the United States and its possessions are defined as out-of-state residents unless they fall within the annual quota granting remission. Students granted remission are assessed tuition at the out-of-county rate for a maximum of 4 semesters. Remission may be granted to international students who comprise less than one percent of the College's full-time enrollment.

Generally, first year students do not qualify for this remission.

In addition, there is no guarantee that international students who are in their second year of study will be

GENERAL EXPENSES

Transcript \$ 3.00 each

Vehicle Registration

All students who take courses on the Middlesex County College campus must register their vehicles each year (September–August) with the Security and Traffic Office. A fee of \$20.00 is charged for all vehicles.

Insurance

Accident/Health and Sickness \$ 59.00 per year
\$ 51.00 for half a year
(Required of full-time students)

Malpractice Insurance* \$ 17.00

*Mandatory for students enrolled in Dental Hygiene, Nursing, Medical Laboratory Technology or Radiography Education courses with clinic requirements.

Miscellaneous Fees

Application Fee \$ 25.00

Curriculum Change Fee \$ 10.00

Graduation Application Fee* \$ 40.00

*Students pay this fee only once for each degree or certificate awarded.

These miscellaneous fees listed above are **non-refundable**.

Late Registration
Period I \$15.00 per semester
Begins 40 days after the last scheduled day of returning student registration.

Period II \$25.00 per semester
Begins one week immediately prior to the first day of classes and continues through the registration period.

SPECIAL FEES

International student fee \$300 per semester

International Credential Evaluation

All College programs excluding Medical Laboratory Technology \$130.00

Dental Hygiene Senior Students Licensing Examination Fees

National Board Examination \$ 75.00

North East Regional Board \$375.00

Advanced Placement-Nursing

Phase I \$ 65.00

Phases II and III \$135.00

Dishonored Check Fee.... \$ 20.00 per dishonored check

Books and Supplies

These charges are approximate or estimates and are subject to change.

Automotive Technology

Tools \$1,600.00

Dental Hygiene

Instrument Kit

Freshmen \$720.00

Seniors 300.00

Uniform 300.00

Engineering Program

Drawing Kits..... \$ 50.00

Hotel, Restaurant, and Institution Management

Knives \$20.00 approximately

Uniform \$ 70.00

Marketing Art and Design

A camera with adjustable shutter speed and aperture settings and a non-automatic metering system is required. A second-hand camera in good working condition meeting these specifications may be used.

Art and photographic equipment and supplies .. \$125.00

Medical Laboratory Technology

Uniform \$ 45.00

Nursing-Joint Program with UMDNJ

Uniform \$100.00

Radiography Education

Uniform \$100.00

granted tuition remission. The number of students who are eligible varies from year to year depending on the college's full-time enrollment. International students must provide proof of sufficient funds to cover all college expenses for the entire time they will be enrolled.

Chargeback

Students residing in New Jersey outside of Middlesex County may pay the in-county tuition rate if they qualify for chargeback and provide the Middlesex County College Business Office with the properly signed Certification of Inability to Admit from their home county college and Certification of Residency forms.

The Certification of Inability to Admit must be completed by the Registrar or Admissions Officer of the student's home county college. The Certification of Residency form must be completed by the county fiscal officer (treasurer) of the student's home county. These forms are normally good for a one-year period from July 1 to June 30 of the following year. Students may pay in-county tuition if they submit these forms with their registration.

Students who have paid out-of-county tuition and who file properly executed chargeback forms will receive a refund that will reduce the tuition charge to the in-county rate. The refund will be made when the student's home county has made payment to the College.

In the event that the student is a qualified resident of a county that does not have a county college, the Certification of Inability to Admit is not required.

Students living in Middlesex County wishing to take courses at another New Jersey County College and have Middlesex County pay a portion of their tuition must obtain a Middlesex County Chargeback Application from the College's Office of Admissions and Recruitment (for degree and certificate students) or the Department of Continuing Studies (for non-degree students).

If all is in order, MCC will forward the application to the Middlesex County Controller for endorsement. The original approved application will be mailed to the accepting college and a copy will be mailed to the student. The completed application, along with two proofs of residency, **MUST BE PRESENTED WITHIN 30 CALENDAR DAYS AFTER THE START OF CLASSES.** If all is in order, the MCC Official will sign the form.

ENCUMBRANCE POLICY

The records of students who owe the College money will be encumbered. Requests for transcripts and graduation applications will be processed only for those students who have satisfied all financial obligations to the college. Students who owe the college \$50 or more will be referred to a collection agency. The collection agency's fee will be added to those students' existing financial obligation. Final grades will be withheld and registration

for future semesters will not be permitted until the debt is satisfied. Students may appeal their situation to the Internal Auditor.

REFUND POLICY

Written notice of withdrawal must be received in the Department of Counseling and Placement Services in Edison Hall, Room 100, prior to the dates specified below in order for full-time students who are withdrawing from all of the courses to be eligible for a refund. Part-time students who are withdrawing from one or all of their courses and full-time students who are withdrawing from one but not all of their courses, must give written notice to the Registrar's Office prior to the dates specified below to be eligible for a refund.

Students who withdraw prior to the first day of classes will receive a full (100 percent) refund of tuition and fees, as well as student, course, and general fees. The application fee and late registration fee are non-refundable. (See "Drop Fee" below.) The first day of classes is the first day classes are in session for a given semester, **not the first day a particular course meets.**

Students who withdraw prior to the first day of the second week of classes will receive a 75 percent refund of all tuition and 100 percent of student, course, and general fees. (See "Drop Fee" below.)

Students who withdraw prior to the first day of the third week of classes will receive a 50 percent refund of all tuition and 100 percent of student, course, and general fees. (See "Drop Fee" below.)

DROP FEE

A fee of \$20 will be charged for each class dropped through the end of the refund period. **Students are responsible for this fee for any class they drop or from which they are dropped, whether or not they attend.**

Students should refer to the schedule booklets for specific withdrawal deadlines for each semester.

FINANCIAL AID

Office of Financial Aid

The Financial Aid Department reviews student applications for financial assistance and develops appropriate financial aid packages for eligible students. The Department distributes detailed information regarding financial aid, including required consumer information.

Available aid sources include Pell Grants, Supplemental Educational Opportunity Grants, Work Study programs, Middlesex County College Foundation Grants, New Jersey Tuition Aid Grants, Stafford Loans including the Supplemental Loan for Students (SLS) and Parent Loans for Students (PLUS) loans, and other private scholarships and grants.

The Department monitors the academic progress of financial aid recipients, and terminates aid awards if students do not demonstrate satisfactory progress.

The Department also prepares institutional, federal and state reports related to the financial aid programs, funding and administration.

Middlesex County College makes every effort through its financial aid program to overcome financial barriers that may prevent students from completing their education. Funds from federal, state and college sources are available to those who have need and meet eligibility requirements. Loans must be repaid, but grants need not be repaid.

All applicants for federal, state, and college aid must complete the Free Application for Federal Student Aid (FAFSA). This form is available from high schools and the College's Office of Financial Aid.

The FAFSA must be filed each year. This form is available in January for the following academic year, and should be filed as early as possible. Campus aid funds are a limited resource. Students should apply by May 3 to insure priority processing.

The Federal Processor takes the information provided on the FAFSA and determines each applicant's family contribution using a formula called Federal Methodology. The NJ Grants and Scholarship Office receives the FAFSA information from the Federal Processor and calculates the student's eligibility for State funds using a State formula. Financial need is computed by subtracting the federal family contribution figure from students' budgets. The Financial Aid Office attempts to meet each applicant's need by building a student aid package with available funds. An aid package may include a combination of grants, loans, and part-time employment. Eligibility is determined by the requirements of each aid program and is subject to the College's review of the applicant's academic progress as defined by College standards. Financial aid requires financial aid transcripts if students attended school after high school. Verification of data may also be required.

For further information, call the Financial Aid Office at 906-2520. Consumer information is available upon request.

FINANCIAL AID PROGRAMS

Federal Grants

Pell Grant Program

Awards range from \$200 to approximately \$2,300 per year. Eligibility is determined by Pell Grants and the student is notified via a Student Aid Report (SAR).

Supplementary Education Opportunity Grant (SEOG)

Awards range from \$200 to \$800 per year and are awarded to students directly by the College.

New Jersey Grants

Educational Opportunity Fund (EOF) Program

Awarded by the New Jersey Department of Educational Opportunity to students who are considered educationally and financially disadvantaged. Awards are approximately \$650 per year.

Garden State Scholarship (GSS)

Awarded by the New Jersey Department of Higher Education to students who satisfy certain academic achievement requirements as determined by the state. Awards range from \$200 to \$1,000 per year.

Tuition Aid Grant (TAG)

Awarded by the New Jersey Student Assistance Office. Awards range from \$200 to \$1,200 per year.

Middlesex County College Grants

Middlesex County College Foundation Grants (MCCF)

Awards are made by the College's Office of Financial Aid from funds raised by the College Foundation from private, industrial, and civic organizations. Awards range from \$200 to \$800 per year.

Work Study Programs

Federal College Work Study Program (CWSP)

Part-time on-campus jobs are awarded by the College's Office of Financial Aid guaranteeing an opportunity to earn a specified amount of money.

Stafford Loan Program

Stafford loans are made through banks, or other lending agencies, and are repaid after the student leaves college. The interest rate is variable for repayment of new loans, but not higher than 9 percent. The government pays the interest during in-school periods on need based loans called subsidized Stafford loans. The student is responsible for all interest on non-need based loans called unsubsidized Stafford loans. Applications are available at the lending institutions. Information about the current terms of the program is available at the time of application.

NOTE: Student eligibility for any of the above programs is based on the specific requirements of the program as well as affirmative evidence that the student is making satisfactory academic progress toward a degree.

Other Sources Of Aid

Part-time Jobs

Many students work part-time in the surrounding area. The Middlesex County College Job Placement Office can assist in locating a part-time job in the area.

Outside Scholarships

Many organizations award scholarships. If a student's family is affiliated with a community or religious organization, the organization may be contacted to see if it offers scholarships.

Many companies will help employees or children of employees finance their education. Students may contact their employer or their parents' employers and ask if they have tuition assistance programs.

MCC Scholarships

MCC awards several full-time scholarships each year for academic and athletic excellence. These awards are based on merit rather than financial need. Students graduating from Middlesex County high schools may apply. Contact the Office of Admissions and Recruitment for further information.

Cooperative Education

Students in most majors may have the opportunity to gain work experience in their fields while earning money to help finance their college costs. Contact the Cooperative Education Department of the College for further information.

REGISTRAR'S OFFICE

The Registrar's Office, located in the Academic Services Building, is responsible for student registration, change of curriculum, transfer credit evaluations, certifications of enrollment, grade reports, graduation clearance and transcripts.

Additionally, With the cooperation of the academic departments, the Office makes faculty assignments, prepares the class schedule and publishes schedule bulletins each semester. The Office also prepares the College Catalog and supplements.

REGISTRATION

Returning Students Who Have Been Admitted to a Degree or Certificate Program

Currently enrolled full- and part-time students who have been admitted to a degree or certificate program are eligible to register during Advance Registration which is scheduled in April and May for the Fall semester and November and December for the Spring semester. Full-time students are required to meet with faculty advisors and select classes each semester. The advisors assist them with course selections and approve their schedules.

Students then submit their faculty approved registration forms in person at the registration site. Part-time students are encouraged to meet with an advisor who can assist them with course selections. Students who register during Advance Registration are billed for their tuition and fees.

New Full-Time Students

New students are given a registration appointment after they are admitted to the College and have taken the New Jersey Basic Skills Placement Test. Faculty advisors are available at registration to answer questions about the College and to help students choose appropriate classes.

New and Non-Matriculated Part-Time Students

New part-time students, and those currently enrolled who have not been admitted to a degree or certificate program (non-matriculated), may register by mail and in-person beginning in July for the Fall semester and December for the Spring semester. Schedule booklets listing all academic offerings for the semester and registration instructions are mailed to the homes of all currently enrolled part-time students and all Middlesex County residents. Tuition and fees must be paid in full at the time of registration.

Auditing A Course

Most courses may be audited. Students may elect to change a course from credit to audit through the refund period, or the 10th Day of the semester. Students attending courses on an audit basis are not obligated to complete examinations or other requirements, nor do they receive any grade or credit for the course. However, they must pay the same tuition and fees whether they audit a course or take it for credit.

Other Services

At midterm, students are notified if they are not making satisfactory progress. At the end of each semester, all students receive their final grades. Official transcripts of students' academic work are issued upon request—(see p. 28 for details). As part of this process, the Office provides academic departments with official, midterm and final grade rosters for the recording of attendance and grades.

The Office certifies student enrollment to outside agencies such as the Social Security Administration. Students requiring such certification must file a Request for Certification of Enrollment form. The Office also reports unsatisfactory progress to the Veterans Administration. (See p. 24 "Veterans and Military Benefits".)

The Office evaluates official transcripts for students seeking transfer credit from another institution. Final approval of such awards are made by academic department chairpersons. (See p. 27 "Degree and Certificate of Achievement Requirements" and p. 9 "International Students").

In order to graduate, students must file an Application for Graduation. The Office reviews students' courses and grades for applicability to specific degree requirements and determine eligibility for graduation. (See p. 27 "Degree and Certificate of Achievement Requirements" and p. 27 "Application for Graduation").

Students with questions regarding any of the above are requested to come in person or to call the Registrar's Office.

ACADEMIC ADVISEMENT

Full-Time Students

All full-time students are assigned to a faculty advisor, usually within their academic program. Students meet with their advisors to review curriculum requirements, to discuss vocational and educational goals (including transfer) and to discuss problems interfering with their academic success. It is the responsibility of students to meet all curriculum and college requirements.

All faculty members maintain a regular schedule of office hours. These hours are posted on their office doors. It is the responsibility of students to make appointments with their advisors. Names of advisors for full-time students are on file in the academic departments, the Academic Advising Center, and the Registrar's Office.

Students may be referred by their advisor to a counselor in Counseling and Placement Services when appropriate, (see p. 21 for a description of services). Faculty advisors are available for walk-in appointments in the Academic Advising Center, (see p. 19 for more information).

Part-Time Students

Academic advisors and coordinators provide advisement information for part-time students. During the daytime, students may go to the Academic Advising Center. They may make an appointment to see an advisor during afternoon or evening hours in the Registrar's Office by calling 906-2523.

WITHDRAWAL

Withdrawal From a Course

Enrolled students who are permitted to withdraw officially from a course during the first nine weeks of any semester will receive a grade of W on the permanent record. Official withdrawal must be initiated by the student with the faculty advisor and completed through the Registrar's Office. Withdrawal from a course after the ninth week will result in a grade of WP or WF, depending upon the students' progress in the course until the time of withdrawal. (See p. 30 for an explanation of WP and WF grades).

Official withdrawal after the ninth week must be initiated with the instructor of the course; the approval of the faculty advisor and department chairperson are also required in order to complete the withdrawal in the Registrar's Office. Should withdrawal be necessitated for reasons of health, or circumstances beyond the student's control, a grade of W may be authorized by their division dean.

Withdrawal From the College

Full-time students compelled to withdraw from all of their courses must go to the Office of Counseling Services in Edison Hall, complete the proper withdrawal form, and confer with one of the counselors. Failure to do this will result in forfeiture of such refund of tuition and fees for which they might be eligible.

Students who officially withdraw from the College during the first nine weeks of the semester will receive the grade W in all courses. After the ninth week, students will receive a grade of WP or WF in each course, depending upon progress in each course until the time of withdrawal, (See p. 30 for an explanation of WP and WF grades). Students may appeal to the division dean for grades of W if withdrawal is due to circumstances beyond their control.

Part-Time Status

Students with full-time student registration priority who register for fewer than 12 credits, or who officially withdraw from a sufficient number of courses to decrease the course load to fewer than 12 credits during the first ten class days of a given semester, will be reclassified as Division of Continuing Education students.

Official Withdrawal to Part-Time Status — After the First Ten Days of the Semester

Full-time students who withdraw officially from one or more courses but retain a course load which is fewer than 12 credits after the tenth day of classes will be re-enrolled with all other returning students providing satisfactory academic progress is made and required sequential courses are completed.



SPECIAL PROGRAMS AND SERVICES

ACADEMIC ADVISING CENTER

The Academic Advising Center, located in the Johnson Learning Center, room 241, is staffed by faculty members from various academic departments. During the academic year, advisors are available without appointments Monday through Friday to help students make academic decisions, plan a course schedule or register for the next semester.

The Center supplements other academic advising alternatives which include assigned faculty advisors for all full-time students and evening advisement in the Academic Services Building, Registrar's Office.

Academically Talented Students Honor Societies

ALPHA MU GAMMA is the national collegiate foreign language honor society. The Iota Tau Chapter was established at Middlesex County College in 1979 and has inducted students who have maintained a 4.0 GPA in upper level language courses and an overall 3.0 GPA. Further information can be obtained by contacting Robert Dalton, advisor, Modern Language Department.

PHI THETA KAPPA, the national honor society, was established in 1918 to recognize the academic achievements of two-year college students, to provide the opportunity for leadership training, and to promote an intellectual climate for an interchange of ideas and ideals. The Upsilon Gamma Chapter was organized at Middlesex County College in 1969, and since has had many members who have distinguished themselves in their fields.

There are two selection criteria for membership. The first is to achieve a semester grade point average of 3.5 or higher, the second is to pledge an interest in leadership development and community service.

PTK, in addition to being an academic designation, is, therefore, also an active organization on campus and each member is encouraged to participate in the service and social activities scheduled each year. Further information can be obtained by contacting Dr. Margarete Driver, Modern Language Department.

PSI BETA, Inc., is the national honor society in psychology for two-year colleges. It was founded for the purpose of stimulating, encouraging, and recognizing scholarship and interest in psychology. Membership is open to men and women who are enrolled at Middlesex County College and who have completed at least one psychology course with a grade of B or better in psychology and have an overall GPA of 3.25 or better. Further information can be obtained by contacting Theresa Holt, advisor, Psychology and Learning Development Department.

Athletic Activities

Intercollegiate Athletics

As a member of Region XIX of the National Junior College Athletic Association, Middlesex County College fields varsity teams for men and women. Teams providing competition come from New Jersey, Pennsylvania, and Delaware.

Middlesex County College is also a charter member of the Garden State Athletic Conference. The GSAC provides the opportunity for athletic competition among New Jersey community colleges.

Intercollegiate Sports are:

| | |
|------------------|--|
| Women's programs | Basketball Softball Tennis |
| Men's Programs | Baseball Basketball Soccer Wrestling |
| Coed Programs | Cross Country Golf Outdoor Track and Field |

All transfer students who wish to participate in intercollegiate athletics should contact the Director of Athletics as early as possible.

MCC students are admitted free to regularly scheduled home games. Students are encouraged to support MCC teams and to exemplify good sportsmanship at all times.

Intramural Activities

The campus intramural program offers an opportunity for students, faculty and staff to compete in athletic activities throughout the academic year. The majority of activities will be held during the College and Division hours, although some competition will be held on weekends. Interested individuals should check the Intramural Bulletin Board, or contact the Intramural Director.

All participants must obtain medical clearance from the Health Services Coordinator.

PHYSICAL EDUCATION CENTER

The Physical Education Center features several collegiate-size basketball courts, weight room, swimming and diving complex, dance studio and four racquetball courts. These facilities are available on a scheduled basis for campus recreation.

Current full- and part-time students may use the swimming pool, gymnasium and track free of charge. Registered students may also use the weight room without charge.



from 7 a.m. to 2:20 p.m., Mondays -Fridays. Evening and Saturday use of the weight room is restricted to Fitness Club members. Students will pay the MCC community racquetball rate (see below).

The MCC Fitness Club is an organization open only to enrolled registered students who have paid the student service fee, full-time faculty, or staff, and members of the Alumni Association. Membership entitles members to free use of all facilities except the racquetball courts.

Fitness Club Rates

MCC Students (full- and part-time)

| | |
|--------------------------------|----------|
| Individual | |
| Fall or Spring Semester | \$ 17.00 |
| Summer Session | 11.00 |
| Winter Session | 5.00 |
| Family | |
| Fall and Spring Semester | \$ 55.00 |
| Summer Session | 35.00 |
| Winter Session | 17.00 |

Full-Time Faculty and Staff

| | |
|---------------------------|----------|
| Individual - Annual | \$ 85.00 |
| Family - Annual | 220.00 |

MCC Alumni

| | |
|---------------------------|----------|
| Individual - Annual | \$110.00 |
| Family - Annual | 275.00 |

Rates will be prorated as appropriate for full-time faculty and grants personnel with contracts of less than one year.

General Use Fees

Racquetball Courts

| | |
|----------------------|--------------------------|
| Monday-Friday | |
| 7 a.m. - 4 p.m. | \$6/hour |
| MCC community | \$9/hour general public |
| 4-9 p.m. | \$9/hour |
| MCC community | \$16/hour general public |
| Saturday | \$9/hour |
| MCC community | \$16/hour general public |

A MCC community player is entitled to play with one guest. Additional guest will be charged \$2.00 each. MCC community members include registered students charged the student service fee, full-time faculty, full-time staff, and Fitness Club members.

Swimming Pool

The general public is charged \$3.00 per person per session. Children under 5 years of age fee.

Children 16 years old and younger need parent or guardian, dressed in appropriate swimming attire, to enter pool.

Rentals-School

| | |
|--|--------------|
| Community nonprofit and county organizations | \$60.00/hour |
| Other groups | \$80.00/hour |

A detailed recreation schedule is available in the PE Center. For information call, 906-2560.

CHILD CARE CENTER

Professional preschool education and child care facilities are available at the College's Child Care Center for children of students, staff and the community. Part-time care is available when space permits. Eligibility for admission is determined on the basis of a child's age and need, and is considered in relation to the number of children the Center can accommodate.

Administered by the Division of Continuing Education and Instructional Resources, the Center serves as a demonstration and training site for students of the Early Childhood Education option of the Educational Technology curriculum, which is administered by the Department of Psychology and Learning Development.

Day Services. The Center is open Monday through Friday from 7:30 a.m. to 5:15 p.m. on a year-round basis. Children between two and a half and five years of age, who are toilet-trained, are eligible for admission to the preschool at the center. The center also has a kindergarten component. Breakfast, hot lunch, an afternoon snack, and a rest period are provided.

Evening Services. The Child Care Center is also open from 5:15 p.m. to 9:15 p.m., Monday through Thursday, to serve the needs of evening students and faculty of the College during the Fall and Spring semesters. Children between three and eight years of age are eligible. The fee is \$6 per child for a full evening (two hours or more); \$3 for each sibling. There is a \$4 fee per child for a partial evening (less than 2 hours); \$2 for each sibling. Snacks are provided, and parents may also send a "brown bag" dinner.

Additional information and applications may be obtained by contacting the Director of the Child Care Center (908) 906-2542.

COOPERATIVE EDUCATION

Cooperative Education integrates academic study and practical work experience. The program is open to all students who wish to gain paid work experience related to their career goals.

Students establish learning objectives specifically related to their position. Work performance is monitored by a coordinator through on-the-job visitations and individual progress review sessions. Also, students must attend a seminar each week oriented to the development of human relations skills.

Cooperative Education courses are available in the following areas:

| | |
|-----------------------|------------------------|
| Accounting | Credit & Financial |
| Advertising Graphics | Management |
| Automotive Technology | Criminal Justice |
| Biological Technology | Educational Technology |
| Chemical Technology | Electrical Engineering |
| Computer Science | Technology |

English/Journalism
Fashion Merchandising &
Retail Management
Hotel, Restaurant &
Institutional Management
Legal Assistant
Management

Marketing
Office Systems Technology
Photography
Physical Distribution
Physical Education
Psychology
Theatre/Visual Arts

In order to enroll in the program, students must be matriculated in the curriculum in which they desire to take co-op, and meet co-op course prerequisites. Interested students should refer to the course descriptions in the catalog for details.

Students should contact the Department of Cooperative Education for more information.

COUNSELING AND PLACEMENT SERVICES

The Department of Counseling and Placement Services assists students in making decisions about career choices, educational programs, college transfer, job placement, and other personal concerns.

The Department also assists students in adjusting to the demands of college, and in improving their academic and social skills. Professional counselors help students through periods of emotional stress. Counselors also help students in gaining self-understanding and in becoming more effective in relationships with others.

The Department assists students and alumni in preparing for and obtaining full-time, part-time and summer employment, and provides resource information about careers, employment projections and local employers.

Department counselors follow the principle that each individual's problem merits privacy and confidentiality. To insure this right, no information is released without the student's permission.

Counseling is provided individually and on a group basis through special seminars and workshops in the following areas:

- Adjustment to College
- Career Decision-making
- Choosing a Major
- Developing Study and Test-Taking Skills
- Educational Planning
- Job Placement
- Personal Problems
- Transfer to a Four-Year College

Special help is provided for international students, students with disabilities, and students whose first language is Spanish. A resource center with information on four-year colleges and career opportunities is available. Counseling is also available in the drop-in center, located in the College Center.

Bilingual Counseling

Special assistance is available to the students and members of the Hispanic community who have language difficulties. Bilingual English-Spanish counseling is available to students in each area mentioned below.

Consejeria Bilingue: Se ofrece tambien ayuda especial a los miembros de la comunidad hispana y estudiantes con dificultades con el idioma ingles. Se ofrece consejeria bilingue en ingles y espanol para estudiantes, en todas las areas que se mencionan mas adelante.

Career Counseling

Students interested in exploring their aptitudes and interests and in developing decision-making skills will find assistance either through individual appointments or in workshops conducted on a year-round basis.

Career Information Center

Located in Edison Hall, the Career Information Center enhances student career development. The Center provides a wide variety of printed and computerized information on career choice, decision-making skills, job search materials, and specific vocational fields. It also contains career videotapes and written materials in Spanish and English.

Counseling for Academic Success

Seminars are scheduled each semester by the counselors for students who want to improve their study skills, note-taking skills, test-taking ability, and textbook reading skills. These seminars are available by arrangement.

Counseling for Students with Disabilities

Multidimensional support services are provided to students with disabilities. Assistance is offered in pre-admission, personal, social, educational and career counseling. The Counselor for Students with Disabilities coordinates services including registration assistance, consultation with faculty, and hiring of support personnel. A variety of specialized equipment is available to assist students as well as an adaptive testing service.

Project Connections

Project Connections provides support services to students identified with specific learning disabilities through a comprehensive psychoeducational support program. Both academic and counseling services are available to assist students in meeting with success in completing their college programs. The project is staffed by a professional team of learning specialists and counselors. A supplemental application is required.

Students with disabilities requiring assistance are strongly encouraged to make contact with the Counselor for Students with Disabilities (Edison Hall, Room 100, 906-2546) early in the application process so that the College may respond to students' needs in a timely and effective way. Prospective students should request a copy of the "Special Services" brochure for additional information.

Counseling for International Students

The International Student Advisor provides individual counseling on visas, government regulations, cross cultural adaptation and housing to international students and recent immigrants. All new international students must register with this office at the time of enrollment.

Transfer Services

The transfer staff assists students with educational planning and choosing transferable courses appropriate to the four-year college and degree of their choice. The latest catalogs, reference books, scholarship guides, and other specialized information are available in the Transfer Services Center in Edison Hall.

Testing

Tests can assist in the counseling process. Tests will be used when both the counselor and the student feel the need for information. Counseling and Placement Services has available a complete battery of aptitude, personality and interest tests.

Job Placement Services

The staff of the Job Placement Office assists students and alumni in preparing for and securing full-time, part-time, or summer employment. Services include workshops designed to assist students in preparing for employment; on-campus interviews with local employers; job placement and career counseling to assist in career planning and job search techniques; an extensive library of information and materials on employers and employment trends; and a job referral service which notifies registered students of job opportunities listed by area employers.

At the request of students, credentials and letters of recommendation on file from professors and employers are forwarded to prospective employers.

EDUCATIONAL OPPORTUNITY FUND

The Educational Opportunity Fund Office provides individual and group counseling services, academic support and financial aid to educationally and economically disadvantaged students who might not otherwise attend college. To be considered eligible for the program, a family income must be below \$28,000 a year.

The program provides financial aid, individual and group counseling, and tutoring to full and half-time students. Programs of study are designed to meet individual needs, with an intensive summer school session that is mandatory for all beginning EOF students. Information about admission to the program may be obtained by contacting the EOF Office or the Admissions Office.

HEALTH SERVICES OFFICE

The Health Services Office is located in South II. A registered nurse is on duty from 8:00 a.m. to 4:00 p.m. daily to assist with health-related concerns.

Services provided include emergency first aid, health counseling, referrals, athletic/employee physicals, special

parking permits, student insurance information and claims, screening procedures and assistance with management of common health problems. The College Physician is on campus one afternoon each week. Appointments are available through the Health Services Coordinator.

All full-time students are required to submit a health history and/or physical examination form to the Health Services Office. Additionally, all students born after December 31, 1956 who are enrolled full-time or part-time in a degree or certificate program, must submit proof of immunization against vaccine preventable diseases.

Students in the Health Technology Programs should contact the department chairperson regarding additional immunization requirements.

All full-time students are required to enroll in the student accident/sickness insurance plan. This requirement may be waived upon presentation of proof of adequate coverage. This insurance is also available as an option for part-time students.

THE LIBRARY

The library provides a basic core of reference and other resource material for students, faculty, and staff of the College.

Library faculty are scheduled to assist with the use of the collection whenever the library is open. They also provide specialized instructional sessions for a variety of courses. Students are encouraged to seek advice from library faculty when starting a research project or a class assignment.

The book collection of approximately 75,000 volumes is augmented by on-line access to over 320 databases (DIALOG), 700 periodicals, and newspapers which cover all the subject areas taught by the College, as well as a number that are of general interest. Additional resources include maps; selected local, federal, and New Jersey government documents; an extensive pamphlet file containing information on many different topics of current interest; and annual reports from major corporations. In addition, faculty place material on reserve to augment classroom assignments and textbook readings.

Material which is not available in the collection can be located through an on-line regional (LINX) or national (OCLC) interlibrary loan network. All the libraries in Middlesex County are linked through an on-line circulation system (LMxAC/UTLAS). The College participates in the New Jersey Union List of Serials which provides locations of scholarly journals and periodicals for interlibrary use.

Library Schedule When Classes are in Session:

| | |
|-------------------|------------------|
| Monday - Thursday | 8 a.m. - 10 p.m. |
| Friday | 8 a.m. - 5 p.m. |
| Saturday | 9 a.m. - 4 p.m. |
| Sunday | 1 p.m. - 8 p.m. |

Summer and Recess Hours are posted.

MEDIA RESOURCE CENTER

Video tapes, audio cassettes, slides, language tapes, as well as self-paced learning tapes, discs and other computer software, are available in the Media Resource Center, Room 241 in the Johnson Learning Center. Audio visual material is provided for use in classrooms and labs, but not for home use. Experienced technical staff are available to assist with the design and production of instructional resources for the classroom.

Media Resource Center Hours - Fall and Spring Semesters

| | |
|-----------------|-----------------------|
| Monday-Thursday | 8:30 a.m. - 9:15 p.m. |
| Friday | 8:30 a.m. - 4:30 p.m. |
| Saturday | 9:00 a.m. - 2:00 p.m. |

Summer and Recess hours are posted.

MINORITY STUDENTS

The Office of Minority Student Affairs, located in Raritan Hall, provides advice and assistance to students, faculty, staff and administration on issues related to the needs of minority students. The Office also develops and coordinates the following programs and activities to enhance campus life for minority group students.

Scholarships and Financial Assistance

Minority students may be eligible for scholarships given by outside organizations. The Financial Aid Office can assist students in finding and applying for these scholarships. Minority students may also take advantage of need-based financial aid programs, including Educational Opportunity Fund grants.

Clubs

There are several student organizations of special interest to minority students. They include the Association of Indian Students (AIS), English as a Second Language Club, Club Hispanoamericano, the First World African Nation Club (FWAN), and the International Student Union.

Hispanic Entry Program

Hispanic students who have been admitted to the College receive special assistance through group sessions and individual meeting covering topic essential to their success.

Minority Access to the Professions Scholars (MAPS)

This program allows African-American and Hispanic students to experience the corporate world while completing a degree at the College. MAP Scholars also meet the challenge of a demanding academic load. This stimulating experience teaches a positive work ethic, strong interpersonal skills and prepares students for rigorous workforce demands of the year 2000. The MAPS office is located in Raritan Hall, Room 005.

The Minority Peer Mentor Project

This project provides African-American and Hispanic students with peer support during their first year at the College. Participating freshmen are matched with an outstanding second-year minority student who serves as a campus sister or brother. The peer mentor and student

meet weekly to discuss college-related topics. Academic progress is monitored throughout the year, and students are encouraged to use available College resources to make their college experience successful. Participating freshmen may become peer mentors for the following year. The project office is in Raritan Hall, Room 005.

Project Success

This program provides intensive academic and personal assistance to students in career programs whose high school records and basic skills test scores indicate need for special attention.

SECOND CHANCE PROGRAM

Students who have been academically dismissed from the College may file an appeal to be permitted to continue with full-time status in the Second Chance Program. Students granted an appeal must limit enrollment to 14 or fewer credits or credit equivalents including appropriate developmental courses. Participation in a counseling seminar or course is required.

OFFICE OF STUDENT ACTIVITIES

A college education involves more than classroom instruction. The College recognizes that experiences outside the classroom are important to the overall development of students and supports a strong co-curricular program to complement the instructional activities.

Through the Office of Student Activities, located in the College Center, a full program of social, cultural, and recreational activities is planned and implemented to enhance classroom experiences. A variety of special interest organizations satisfies diverse student interests and provides opportunity for students to develop talent, leadership skills and social responsibility. The Student Service Fee funds the department's programs. To inform the campus community, schedules of events are published by the Office of Student Activities on a timely basis. Services for student organizations include providing equipment, reserving facilities, purchasing supplies, duplicating and mailing.

COLLEGE CENTER

The College Center provides an informal atmosphere in which to relax, to enjoy campus activities, to get a cup of coffee, or to share conversation with friends, faculty, and staff. The Center offers the following facilities: information desk, bulletin boards, Blue Colt Bookstore, photocopying services, game room, cafeteria, Chuckwagon snack bar, Corral Restaurant, Cozy Corner Pizza, Italian Kitchen Sandwich and Sub Shop, photography laboratory, lounges, meeting rooms, and student organization offices.

College Center Programming Board

The College Center Program Board presents a broad program of cultural, recreational, and social events. Five committees plan and present programs; Concert, Film, Fine Arts, Forum, and Social. Popular and classical concerts, film programs, art exhibits, speakers, theatre and museum trips, and social functions are included in the annual schedule of events.



Student Media

Quo Vadis, the newspaper, presents news, sports, features, and editorial commentary. Students are responsible for the publication's policy and content. For poets, writers, artists, and photographers, there is FLUX, the literary magazine. Students, faculty, and staff contribute to the publication. The College radio station, WMCC, broadcasts weekdays within the College Center and serves the College community through its musical, educational, and informational programs.

Student Organizations

Students who are active in College organizations have the opportunity to develop current interests, explore new areas, and meet new people. Over 50 chartered organizations provide a variety of opportunities for full- and part-time students. Examples of student organizations include the Accounting Club, Association of Indian Students, the Student Nurses Organization, and the French Club, Ski Club and Biology Club.

The International Student Union, Better Than Ever Club, the Pony Express Wrestling Club, and the Hispanic American Club are examples of special interest organizations. Also, students may form new clubs. Information on procedures is available at the Office of Student Activities.

TESTING SERVICES

The Testing Center provides a comprehensive program of assessment services for both the student population and the neighboring community.

Programs of major interest to students are:

1. The Credit by Examination program whereby students may obtain college credits by taking departmental examinations and/or College Level Examination Program (CLEP) examinations.
2. Placement testing for foreign languages and for people who are not native speakers of English.
3. Science and math placement testing.
4. Basic skills testing.
5. Interest and aptitude testing.

Some of the community services currently available are:

1. General Educational Development (GED) testing for high school equivalency diplomas.
2. CLEP testing.

TUTORING CENTER

All Middlesex County College students are invited to use the resources available in the Tutoring Center located in the Johnson Learning Center (JLC), Room 241.

An extensive peer tutoring program matches friendly, academically qualified Middlesex County College students with those seeking remediation. Assistance is offered in all curricula on a drop-in basis or by appointment. This free service is offered daily including some evening and weekend hours.

Also on hand in JL 241 are Apple IIe microcomputers for tutorial use. Students may utilize the available software to practice keyboard skills and for individualized review of academic material.

Academic help for reading and writing is offered in Raritan Hall 228 on a drop-in basis as scheduled.

VETERANS AND MILITARY APPLICANTS

All degree and certificate programs are approved by the New Jersey Department of Higher Education, State Approving Agency under Title 38, U.S. Code, Section 1775, for veterans' training. Those applicants wishing to obtain governmental educational benefits or any additional information should contact the Registrar's Office.

Individuals have 10 years from their date of separation from active duty to use their entitlement. Veterans who began active duty between January 1977, and June 30, 1985, may be eligible for veterans benefits if they contributed to the Veterans Education Assistance Program (Chapter 32). Veterans who began active duty after June 30, 1985 and June 30, 1988, may be eligible for veterans benefits if they participated in the Montgomery G.I. Bill (Chapter 30) or the Active Duty Educational Assistance Program of the Selected Reserve and National Guard (Chapter 106).

Veterans benefits recipients must apply for admission to a degree or certificate program. Open College-Developmental Plans of Study have been approved by the New Jersey Department of Higher Education, State Approving Agency. Students enrolled in Open College-Open Plans of Study are not eligible to receive veterans benefits. To maintain benefits, veterans must comply with the Standards of Progress established by the College in cooperation with the State Approving Agency. These Standards include degree requirements, standards and regulations, and the College's Code of Student Conduct. Failure to observe these regulations will jeopardize receipt of benefits. Additional information may be found in the Pathfinder and the Part-Time Studies Booklet.

The Registrar's Office certifies the enrollment status of all students who apply for veterans benefits.

Applicants who are still in military service may apply for an "early out" from their military obligation. Middlesex County College is included in the Education Directory, Part 3: Higher Education.

Reserve Officers Training Corps (ROTC)

Middlesex County College and Rutgers University have an agreement permitting students of the College to cross-enroll in either the United States Air Force or Army Reserve Officers' Training Program at Rutgers. Qualified students may complete the first two years of the four-year ROTC program on a cross-enrollment basis, and the final two years by attending a university having the respective program. Students who successfully complete

the four-year ROTC program and are otherwise qualified are offered commissions as second lieutenants.

To be eligible for enrollment, students must be United States citizens, physically qualified, enrolled full-time, and of good moral character. ROTC program enrollment involves no military commitment during the freshman and sophomore years. The advanced portion of the program is contractual and is scheduled during the junior and senior years. Obligations include enrollment in the reserve forces, attendance at summer camp (a four-week camp between the sophomore and junior years for the Air Force ROTC program; a six-week camp between the junior and senior years for the Army ROTC program), and acceptance of a commission in the reserves if an offer is made.

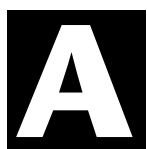
Students cross-enrolling at Rutgers for courses in military science are charged per credit hour. Air Force Reserve Officers Training Corps (AFROTC) requires a \$100.00 deposit for uniforms and books.

For further information, contact the Middlesex County College Registrar's Office or call (908) 932-7706/7430 (Air Force ROTC) or (908) 932-7311/7313 (Army ROTC) at Rutgers University.

Workforce Development Partnership Program (WDP)

Trade Readjustment Act (TRA)

Middlesex County College offers a variety of educational programs which may be individually funded through the WORKFORCE DEVELOPMENT PARTNERSHIP PROGRAM (WDP) OR THE TRADE READJUSTMENT ACT (TRA). If you are unemployed and wish to enroll in one of the College's programs, contact your local Unemployment Office, Division of Employment Services.



ACADEMIC STANDARDS AND REGULATIONS

PLACEMENT

New Jersey College Basic Skills Placement Test (NJCBSPT)

The New Jersey Board of Higher Education requires all public colleges within the state to test incoming students in reading, writing, and mathematics skills. The purpose of the test is to help place students in the courses appropriate to their background and needs.

BASIC SKILLS REMEDIATION POLICIES

Overall Policy

These policies are designed to provide direction for students who are working to correct basic skills deficiencies in reading, writing, math computation, and elementary algebra.

As a general rule, students should complete required remedial courses as early as possible to help insure success in other college courses. No credit-bearing courses in English or mathematics may be taken prior to successful completion of required remedial courses in these areas.

Full-time students must satisfactorily complete all required remedial courses in the first two semesters of study unless three remedial math courses are required. When English and reading are required, they must be taken during the first semester. During semesters prior to completion of all required remedial courses, full-time students should, whenever possible, carry no more than a combined total of 15 credits or credit equivalents.

Part-time students must satisfactorily complete all required remedial courses in the first four semesters of study. Completion of remedial requirements should be in the following order:

1. Reading Skills
2. Writing Skills
3. Mathematics Computation
4. Algebra, if required for the curriculum

Reading Policy

Students needing remediation in reading must successfully complete the required reading course(s) according to the overall policy above. Credit-bearing courses will be limited to those from an approved list.

All students required to take both RDG 009, Reading Skills for College I and RDG 011, Reading Skills for College II must enroll in the appropriate course in the first semester. Students must earn a grade of C or better before advancing to the next level.

Writing Policy

If required, students must successfully complete ENG 009, Writing Skills for College I with a grade of C or better before taking ENG 010, Writing Skills for College II.

All students needing remediation in writing must successfully complete ENG 010 with a grade of C or better before they may enroll in any credit-bearing English course.

Mathematics Policy

Students needing remediation in mathematics computation must successfully complete MAT 010, Basic Mathematics. Mathematics courses which have a prerequisite of algebra may not be taken unless the student has successfully completed the elementary algebra portion of the NJCBSPT or the appropriate developmental algebra course(s).

Elementary Algebra Policy

Students who matriculated into a degree or certificate program as of Fall 1992 and who need remediation in elementary algebra must successfully complete MAT 013, Algebra I with a grade of C or better.

Students enrolled in the following degree and certificate programs who need remediation in elementary algebra must successfully complete Mat 013, Algebra I and MAT 014, Algebra II with a grade of C or better before they may enroll in any credit-bearing mathematics course.

- Business Administration Transfer
- Civil/Construction Engineering Technology
- Computer Integrated Manufacturing
- Computer Science (Information Systems)
- Electrical Engineering Technology
- Engineering Science
- Mechanical Engineering Technology
- Science Transfer
- Surveying Technology

Developmental Courses

- BIO 010 Basic Biology
- CHM 010 Basic Chemistry
- ENG 009 Writing Skills for College I
- ENG 010 Writing Skills for College II
- MAT 010 Basic Mathematics
- MAT 013 Algebra I
- MAT 014 Algebra II
- RDG 009 Reading Skills for College I
- RDG 011 Reading Skills for College II

Students must earn a grade of C or better in these courses before advancing to the next level.

DEGREE AND CERTIFICATE OF ACHIEVEMENT REQUIREMENTS

Degree Requirements

1. Satisfactory completion of all courses in an approved program which requires not less than 60 or more than 66 semester credit hours, except when required for licensure, accreditation, or transfer of full junior status.
2. Minimum grades of C in English composition courses.
3. Minimum cumulative grade point average of 2.0.
4. Residency Requirements: Students must have completed a minimum of 15 of the last 30 credit at Middlesex County College in major courses.
5. With prior approval of the division dean, up to 8 credit hours may be completed at another institution providing that residency requirements are met.

Associate in Arts Degree

1. A minimum of 6 credits in English composition.
2. A minimum of 18 credits in humanities, including 6 in history-of-western-civilization and 6 in a foreign language.*
3. A minimum of 6 credits in the social sciences.
4. A minimum of 8 credits in the natural sciences.**
5. A minimum of 6 credits in a two-semester mathematics sequence.***
6. A minimum of one credit in physical education or health education.
7. A minimum of 12 credits in one area of concentration.
8. Additional credits as detailed in the sample plan of study to comply with general college requirements.

*Level of language placement is based on proficiency tests. MAT 123-124 may be substituted for a modern language with the approval of the dean of Social Sciences and Humanities.

**Life sciences are generally recommended. These must be laboratory science courses.

***Mathematical competency equivalent to MAT 101-102 is required. Demonstration of this level of competency permits this requirement to be waived.

Associate in Science Degree

1. A minimum of 6 credits in English composition.
2. A minimum of 6 credits in the humanities.
3. A minimum of 6 credits in the social sciences.
4. A minimum of 6 credits in a two-semester mathematics sequence or 8 credits in a two-semester laboratory science sequence.
5. One course in computer science.
6. Additional credits in the area of general education* to total with the above to a minimum of 30 credits.
7. A minimum of one credit in physical education or health education.

8. Additional credits as detailed in the sample plan of study to comply with general college requirements.

*Drawn from areas other than the curriculum major: the humanities, social sciences, mathematics, science, physical education, and health education.

Associate in Applied Science Degree

1. A minimum of 6 credits in English composition.
2. A minimum of 3 credits in the humanities.
3. A minimum of 3 credits in the social sciences.
4. A minimum of 3 credits in mathematics or science.
5. Additional credits in the area of general education to total with the above to a minimum of 20 credits.
6. A minimum of one credit in physical education or health education.
7. Additional credits as detailed in the sample plan of study to comply with general college requirements.

Second Associate Degree

A second associate degree may be awarded in only those programs which differ by a minimum of 15 credits in major courses. Such a degree will be awarded only upon completion of degree requirements for the second program.

Certificate of Achievement Requirements

1. Satisfactory completion of all courses in an approved program which requires not less than 30 and no more than 36 degree credit hours.
2. Minimum grades of C in English composition courses when those courses are required in the approved program.
3. Minimum cumulative grade point average of 2.0.

GRADUATION

Application

Degrees and Certificates are awarded three times a year: in August, January, and May. Students must submit an application for graduation/certification to the Cashier's Office well in advance of the graduation date. The application fee is \$40. The deadlines for filing are: July 1 for August Graduation, December 1 for January graduation, and March 1 for May Graduation. Students must complete an academic major program to the satisfaction of the department administering the major. Students who do not meet all degree or certificate requirements for the graduation stated in their application must reapply in order to be considered for graduation at a later date. They are not charged an additional application fee.

May Commencement Ceremony

Students who are within 10 credits of completing all degree or certificate requirements at the end of Spring semester may participate in the ceremony as a degree candidate. To be eligible they must submit an application for the anticipated date of graduation by March 1. All graduates from the previous January and August may participate in the ceremony as graduates.

Degrees are conferred in absentia when candidates have received permission in advance from the division dean to be excused from the May commencement exercises.

Transcripts

Issuance of official transcripts routinely takes two working days from the time the request is received in the Registrar's Office. It takes 5 working days from the time grades are posted to the transcript file at the end of a term. For each transcript furnished, the fee is \$3.00. Students who choose to pick up their transcript rather than having it mailed must present identification. If the student has another person pick up their transcript, that person must present identification and a letter from the student. Students with outstanding financial or other obligations are not issued official transcripts.

GENERAL EDUCATION AT THE COLLEGE

Because Middlesex County College strives to educate its students as total persons, it is strongly committed to general education. The purpose of general education at the college is to develop competencies which enable students to function effectively as informed, articulate, thinking, and responsible members of society and to foster them a commitment to comprehensive personal growth.

The competencies and attitudes necessary to achieve the aims of general education are:

COMMUNICATION SKILLS

Possession of reading, writing, speaking, listening, and comprehension skills in English to enable students to interpret and communicate ideas and information as college educated people.

MATHEMATICAL SKILLS

Possession of basic arithmetic, algebraic, and statistical skills necessary for students to deal quantitatively with problems.

INFORMATION-GATHERING SKILLS

Familiarity with the sources of information and information gathering techniques pertaining to library and non-library sources to enable students to seek and obtain information when needed.

PROBLEM-SOLVING AND DECISION-MAKING SKILLS

Capability to define and analyze problems, frame questions, evaluate available solutions, and choose a desirable course of action so that students can deal with problems and make decisions effectively.

ORGANIZATIONAL ABILITY

Ability to set goals and priorities and organize time and resources, so that students can identify and pursue their goals effectively and efficiently.

THE ARTS AND LITERATURE

Recognition of the relation of literature and of the visual and performing arts to life and ability to understand and enjoy them so that students can develop the aesthetic dimension of their lives.

CLARIFICATION OF VALUES

Exposure to diverse moral, ethical and legal issues so that students can clarify their own values and make responsible choices.

AMBIGUITY AND DIFFERENCES

Understanding of the relativity and plurality of values and beliefs to enable students to develop respect for and an ability to function with ambiguity and differences.

INTERPERSONAL RELATIONSHIPS

Understanding of individual and group behavior and of interpersonal skills so that students can function successfully in their multiple roles in society.

PHYSICAL AND MENTAL HEALTH

Understanding of the human body and mind and their care, of stress and stress-coping mechanisms, and of the impact of physical activity on both physical and psychological well-being.

HISTORICAL PERSPECTIVE

Knowledge of major national and international historical events and intellectual movements and of how the past affects the present.

GLOBAL PERSPECTIVE

Understanding of cultural, political, economic and language differences as well as the interdependence of the world's people.

LOCAL, NATIONAL AND INTERNATIONAL ISSUES

Familiarity with contemporary events, trends, issues, and ability to see their personal relevance so that students can act as responsible members of the human community.

ECONOMIC AWARENESS

Ability to function as intelligent consumers with knowledge of the marketplace and ability to manage personal finances with knowledge of external economic factors.

PRINCIPLES AND METHODS OF NATURAL SCIENCE

Familiarity with the history and major developments of science and an understanding of the scientific method of inquiry and the impact of science on our lives.

TECHNOLOGICAL AWARENESS

Familiarity with the capabilities, potential, and ethical problems of information systems and other technology and the ability to interact with this technology so that students can understand its impact on society.

ECOLOGICAL SYSTEMS

Understanding of the uses and abuses of the physical environment so that students will be responsive to the environment and its impact on the quality of life.

LIFELONG LEARNING

Capability and motivation to learn even after completing formal education so that students can continue their self-directed intellectual growth.

INTERRELATEDNESS OF KNOWLEDGE

Ability to see the interconnections and wholeness of knowledge, to integrate disparate kinds, and to relate them to one's own life.

OTHER HIGHLY DESIRABLE COMPONENTS OF GENERAL EDUCATION

- Competency in a foreign language
- Active participation in the arts
- Knowledge of higher mathematics
- Computer programming ability

HUMANITIES & SOCIAL SCIENCE ELECTIVES

Every humanities and social science elective is noted as such in the official course description included in this catalog. In addition, a complete listing of general education courses, including humanities and social science electives, appears in both the full and part-time schedule booklets.

Humanities and social science electives in this catalog are marked GE HUM for Humanities and GE SS for Social Science under the following course code designations:

| HUMANITIES | | SOCIAL SCIENCE | |
|------------|-----|----------------|-----|
| ART | GER | PHI | ECO |
| DAN | HIS | SPA | POS |
| ENG | ITA | SPE | PSY |
| FRE | MUS | THE | SOC |

Not all courses with those course codes are approved as electives; the course description must include the General Education designation.

ACADEMIC INTEGRITY POLICY

Academic integrity is essential to all educational endeavors and demands that every individual adhere to its basic ethical principles. All academic work must be wholly the product of the individual or individuals who submit it except as properly noted; joint efforts are legitimate only when assigned or approved by the instructor.

Examples of academic dishonesty include but are not limited to:

- Plagiarism - presenting someone else's words, ideas, or findings, in whole or in part, as one's own, without properly acknowledging the source.
- Consulting or possession of unapproved materials during a test.
- Submitting for a grade work copied in any medium from another student.
- Using a stand-in to take an exam or acting as a stand-in to take an exam.
- Falsification of a lab report.
- Unapproved possession of test material.
- Unapproved collaboration.
- Sabotaging another's work.
- Altering a graded assignment to obtain a better grade without instructor permission.
- Forgery, alteration or misuse of any College document.
- Deliberately aiding another in committing an act of academic dishonesty.

Any violation of the principles of academic integrity is a serious offense. Penalties imposed by the instructor can range from an alternate assignment to failure in the course. In addition, the instructor can file code of student conduct charges which can result in suspension from the College.



ATTENDANCE

To obtain the maximum benefit from educational opportunities, students must establish habits of regular class attendance. The College values educational growth that results from such class attendance where ideas and concepts, social development, knowledge, and success derive from the interaction of students and faculty. Therefore:

1. Students are expected to attend all classes, laboratories, and clinical sessions for which they are enrolled.
2. Students are graded solely on the basis of quality and quantity of work, as stated in the course objectives and grading rationales distributed by the instructor at the beginning of each term. Students are responsible for all subject matter presented or assigned and should understand that work or tests missed may jeopardize their grades.
3. Students whose absence is caused by personal illness or serious personal matters should contact their instructors and will be allowed to make up work when possible. It is the prerogative of the instructor to excuse absences provided the student will be able to fulfill course requirements. It is the student's responsibility to arrange promptly with the instructor to make up missed work which has been agreed to by the instructor. Excessive absences may result in not meeting the course objectives and a failing grade as defined in the instructor's grading rationale.

Attendance and Grading Procedures

An instructor is obligated to assign an N grade when a student has not attended class a sufficient number of times to permit adequate course evaluation. An N grade is initiated only at midterm and will be continued as a student's final grade unless class attendance is resumed and course requirements are met sufficiently to receive an evaluated grade. N grades do not affect the grade point average. Students who receive an N grade in all course work at midterm are subject to administrative withdrawal. Students who are administratively withdrawn must reapply and be approved for admission to re-enroll as full-time students.

An N grade will not be assigned as a final grade when the student's pattern of nonattendance began after midterm. In such cases, the S, D, or F grade received at midterm must be revised by the instructor to an appropriate final evaluated grade of A,B,C,D,F, or I. **NO N GRADE WILL BE ASSIGNED AS A FINAL GRADE UNLESS THE STUDENT RECEIVED AN N GRADE AT MIDTERM.**

Make-up Examination

Arrangements for a make-up final examination must be made by students with the instructor or the appropriate department chairperson. The student will not be given a make-up examination unless a written legitimate excuse has been accepted by the division dean's office and a receipt showing the fine has been paid to the College's cashier (Academic Services Building).

GRADING SYSTEM

Honor Points Per Semester

Hour Grade Explanation

| | | |
|-----|----|---|
| 4 | A | Outstanding achievement in meeting the objectives of the course |
| 3.5 | B+ | Above average achievement + |
| 3 | B | Above average achievement |
| 2.5 | C+ | Average achievement + |
| 2 | C | Average achievement |
| 1 | D | Below average achievement |
| 0 | E | Credit by examination |
| 0 | F | Failure to meet the objectives of the course |
| 0 | I | Incomplete work to be made up within one week from the end of the semester or by special arrangement of the department. An grade is temporary and will be changed to an F if make-up is not accomplished in a timely fashion. |
| 0 | N | Not evaluated--insufficient course participation (See Attendance and Grading Procedures) |
| 0 | S | Satisfactory |
| 0 | T | Transfer credit from another institution |
| 0 | W | Withdrawal from course—no evaluation (See p.18) |
| 0 | WP | Withdrawn—passing at the time of withdrawal (does not affect grade point average, see p. 18) |
| 0 | WF | Withdrawn—failing at the time of withdrawal (affects grade point average as though it were a failing grade. See p. 18) |
| 0 | X | Audit |

A cumulative grade point average of 2.0 will qualify students for the associate degree.

Credit Equivalent

This is a non-credit developmental course. Credit equivalency is used to calculate cost, determine student status, and indicate a comparable level of class time and/or workload. Credit equivalent courses are indicated on a transcript with a "Q" preceding the assigned grade.

Grade Changes - Time Limit

Grade Changes should be made as soon as the error is detected, or an appeal is granted. All approved grade changes must be submitted to the Office of the Registrar within one year of the original grade assignment.

Repeated Courses

Students may repeat any course regardless of the grade first received. If the course number or title has changed, students must submit a student appeal to the division dean requesting that an equivalent course be approved. Students may enroll in the same course a maximum of 3 times. Any grades assigned including F,N,W,WF, or WP constitute enrollment in a course. All previous courses will remain on record. Only the highest grade will count in the average, regardless of the number of times the course has been taken. The recalculation of the grade point average occurs automatically after grades are posted to the transcript at the close of each semester. Courses completed at another institution will not be applicable for such a grade point average recalculation.

Credit by examination may be used in lieu of repeating a course provided the repeat is due to a failure in the course.

Nurse Education students should refer to p. 67 for an explanation of the repeat policy pertaining to their program.

Calculation of Grade Point Average

Students' grade point averages are calculated using the following formula:

GPT (Grade Point Total)

GPA = $\frac{\text{GHR (Graded Hours—Total credits for which grades were given)}}{\text{GPT}}$

GHR - is obtained by adding all of the credits obtained from courses for which grades were given (A,B,C,D,F,WF) NOTE: WF=F

GPT - grade point total (or total honor points) is determined by using the following scale:

| Course Grade | Credit | x | Honor points per credit | = | Course honor points |
|--------------|--------|---|-------------------------|---|---------------------|
| A | 1 | x | 4 | = | 4 |
| B | 1 | x | 3 | = | 3 |
| C | 1 | x | 2 | = | 2 |
| D | 1 | x | 1 | = | 1 |
| F | 1 | x | 0 | = | 0 |
| | 5 | | | | 10 GPT |

Therefore, if a student took 5 courses, each 1 credit and received A,B,C,D,F, the total grade points (GPT) would be 10 and the course credits (GHR) would be 5.

$\frac{\text{GPT } 10}{\text{GHR } 5} = 2.00$
Your GPA = $\frac{10}{5} = 2.00$

Consider another example. You initially requested 5 courses (14 credits) and received on your grade report the following:

| Grade | Course | Credits | Honor points per credit | Course honor points |
|-------|--------------|---------|-------------------------|---------------------|
| A | English I | 3 | 4 | 12 |
| B | Child Psy | 3 | 3 | 9 |
| C | Gen Chem I | 4 | 2 | 8 |
| W | Prin of Econ | 0 | 0 | 0 |
| D | Physical Ed | 1 | 1 | 1 |
| | | 11 GHR | | 30 GPT |

SCHOLASTIC STANDING

Honors

Dean's List

Full-time students who earn 12 or more degree credits in any semester and who achieve a grade point average of 3.25 or higher with no grade below C, will be eligible for the respective Dean's list.

Students who earn 12 or more credit equivalents in any semester and who achieve a grade point average of 3.25 or higher with no grade lower than a C will be eligible for a Dean's Letter of Commendation.

Part-time students who earn 12 or more degree credits between September 1 of one year and August 31 of the following year are eligible for Dean's List. To qualify, such students shall achieve at least a 3.25 cumulative average and have no grade lower than a C within that year.

Part-time students who earn 12 or more credit equivalents between September 1 of one year and August 31 of the following year and who achieve a grade point average of 3.25 or higher with no grade lower than a C will be eligible for a Dean's Letter of Commendation.

Grades of I (Incomplete), N (Not evaluated), or WF (with-drawn—failing) will disqualify students for an evaluation period. When an I grade is changed, students will be reevaluated for Dean's List. Students who are graded on a P/F basis (not at their option) in a course are eligible for Dean's List.

Honors at Graduation

Students graduating with cumulative grade point averages of 3.25 or higher in course work completed at Middlesex County College are recognized at Commencement as honor students with the following designations:

| | |
|-----------|----------------|
| 3.70-4.00 | Highest Honors |
| 3.40-3.69 | High Honors |
| 3.25-3.39 | Honors |

STANDARDS OF PROGRESS

NOTE: Old Rules - This policy is in effect through the end of the Fall 1993 semester. New standards will be applied at the end of the Spring 1994 semester. That policy appears below. Students are advised to familiarize themselves with the new standards and meet with an academic advisor if they have any questions about their academic status.

Academic Warning

Full-time students who do not achieve a semester or cumulative GPA of 2.0 will receive an academic warning. These students are required to confer with their advisors to determine how to remove deficiencies.

Academic Restriction

Full-time students who fail to achieve a semester GPA of 1.5 may be placed on academic restriction. These students must confer with their advisors and will not be allowed to take more than 14 credits (or four courses) without the approval of department chairperson until they have achieved a cumulative GPA of 2.0. A curriculum chairperson may remove a student from academic restriction.

Academic Alert

Part-time students who do not achieve a semester or cumulative GPA of 2.0 will receive an academic alert. The alert is an advisory statement to students indicating failure to make satisfactory progress.

Academic Progress

Students who have attempted more than 100 credits without having received a degree will be flagged and referred to the Dean's Council for review. If it is determined that there has been insufficient academic progress, the following recommendations can be made to the Vice President of Academic Affairs:

1. Referred to the appropriate Dean
2. Probationary period to remove deficiencies to show academic progress
3. Indefinite Dismissal

DISMISSAL

Academic Dismissal

The academic status of dismissal from the College will result from failure to earn a GPA of 1.0 in any semester.

Academic dismissal will result from being placed on academic restriction for two consecutive semesters.

Students who have been dismissed are required to remain out of Middlesex County College for one academic semester. (Summer Session does not count as a semester.) They are, however, eligible to enroll through the Division of Continuing Education and Instructional Resources as part-time students (11 credits or less) and may be considered for readmission to full-time standing for the semester following the time of their absence; for example, students dismissed at the end of the Fall semester will be eligible to apply for readmission the following September. If applicants seek readmission to their original curriculum, final approval rests with the Admissions Office.

Dismissed students who forego full-time attendance at the College for a minimum of one calendar year may request that all previous grades and credits be disregarded in the calculation of their cumulative grade point average and graduation requirements. All previous grades and credits will remain on the permanent record. Students choosing this option must submit a Student Appeal form to the Registrar. Students receiving educational benefits from the Veteran's Administration will not be reimbursed for repeating courses for which they have already received a passing grade.

Curriculum Dismissal

Within a curriculum, one or more of the essential courses may be of such importance to the program that failure of the course may result in students being dismissed from the curriculum. Such students will be afforded the opportunity to apply to other curricula.

Second Chance Program

Students who have been academically dismissed from the College may file an appeal to be permitted to continue with full-time status in the Second Chance Program. Students granted an appeal must participate in counseling seminars and limit enrollment to 14 or fewer credits or credit equivalents including appropriate developmental courses.

Administrative Dismissal

Students may be considered for dismissal from the College for the following causes:

1. Neglect of financial obligations.
2. Failure to comply with College rules and regulations or official notices.
3. Violation of the Student Code of Conduct

The College reserves the right to be the sole judge in all matters pertaining to dismissal.

Academic Standards of Progress

NOTE: New Rules - This policy will go into effect at the end of the Spring 1994 semester.

Students are evaluated against the academic standards of progress at the conclusion of each semester or session including fall semester, wintersession, spring semester and summer session. Students will receive a grade report indicating their status at the conclusion of each enrollment period.

Credit Courses

The consequences for students whose cumulative grade point averages (GPAs) fall below 2.00 are as follows:

If a student has attempted no more than 11 credits,

- Below 2.00 = Academic Warning

If a student has attempted between 12 and 23 credits,

- Below 2.00 = Academic Warning
- Below 1.60 = Academic Probation
- Below 1.00 = Academic Restriction

If a student has attempted between 24 and 39 credits,

- Below 2.00 = Academic Warning
- Below 1.80 = Academic Probation
- Below 1.60 = Academic Suspension

If a student has attempted 40 or more credits,

- Below 2.00 = Academic Warning
- Below 1.80 = Academic Suspension

Developmental Courses

- A student whose schedule includes developmental (credit equivalent) courses is expected to earn at least a 2.00 term average in all courses. Failure to do so will result in Academic Probation. Failure to earn at least a 1.00 term average will result in Academic Restriction.
- A student on Academic Restriction or Academic Probation who, in a subsequent semester while still enrolled in developmental courses, fails to earn a 2.00 term average in all courses will be placed on Academic Suspension.

Basis For Academic Dismissal

Academic Dismissal occurs when a student who has been readmitted following Academic Suspension or Dismissal receives a term GPA of less than 2.00 in any subsequent semester.

Course Repeat Limitation and Academic Status

Since a course may be attempted no more than 3 times, failure to complete a course successfully within 3 attempts may result in Academic Suspension or Dismissal - even if those statuses are not otherwise indicated by the above criteria.

Curriculum Suspension and Dismissal

In addition to the college-wide standards outlined above, individual programs may have stricter standards regarding continued enrollment in those programs (see special program requirements).

ACADEMIC STATUSES

Academic Warning

Academic warning is an advisory statement to students that their present level of performance is below College standards.

Academic Probation

Students who have been placed on Academic Probation will be limited to 14 credits and credit equivalents or 4 courses. Additional limitations may include non-admittance to certain courses and/or required enrollment in one of the College's freshman orientation-type courses. *No student on academic probation may register without signed approval by one of the following: the curriculum chairperson, the dean of the student's division or an advisor in the Advising Center.*

Academic Restriction

Students who have been placed on Academic Restriction will be limited to 8 credits and credit equivalents or 2 courses. Additional limitations may include non-admittance to certain courses and/or required enrollment in one of the College's freshman orientation-type courses. *No student on academic restriction may register without signed approval by one of the following: the curriculum chairperson, the dean of the student's division or an advisor in the Advising Center.*

Academic Suspension

Students who have been academically suspended are prohibited from enrolling at the College for a period that includes one fall or spring semester. A suspension at the conclusion of a fall semester includes both winter and spring semesters. A suspension at the conclusion of a spring semester includes both summer and fall.

If the student returns following the suspension period, he/she is subject to scheduling limitations as described under "Academic Probation".

Academic Dismissal

Students who have been academically dismissed are prohibited from enrolling at the College for a *minimum period of three years*. A student wishing to be reinstated following dismissal must submit a reinstatement appeal demonstrating his/her readiness to pursue college studies. The Deans Council will rule on the appeal.

Academic Dismissal/Academic Suspension Grade Point Average Appeal

Students who have been academically dismissed or academically suspended who forego full-time attendance at the College for a minimum of one calendar year may request that all previous grades and credits be disregarded in the calculation of their cumulative grade point average and graduation requirements. All previous grades and credits will remain on the permanent record. Students receiving educational benefits from the Veteran's Administration will not be reimbursed for repeating courses for which they have already received a passing grade.



GENERAL REGULATIONS

STUDENT LIFE

Conduct

In order to provide for the maximum comfort, convenience, and well-being of the total college community, certain standards of behavior have been established at Middlesex County College. Upon admission to the college, all students accept an unqualified commitment to adhere to such standards and to conduct themselves in a manner that reflects pride in themselves and the college. Such actions as academic dishonesty, abuse of property, and possession of alcoholic beverages or illegal drugs are in violation of the College's standards and are cause for disciplinary action. This information is in the Code of Student Conduct which is printed in the Pathfinder, the student handbook.

Dress

The College expects all students to exercise good judgment with respect to attire worn in the classroom and on the campus. For reasons of safety, footwear is required.

Identification

Student Identification cards are mailed prior to the beginning of the term. These cards are to be used for library privileges and for admission to all athletic events, social activities, and other College functions. Students who lose their identification card should report the loss immediately to the Registrar.

Transportation

Students are responsible for arranging their own transportation to and from the campus. Public transportation is available; however, because of the wide distribution of students, the majority will find an automobile necessary. Many students arrange to travel in car pools.

Campus Traffic

The College is designed as a compact walk-on campus with perimeter parking. All information regarding speed limits, violations and fines, description of parking lots, location of buildings and temporary vehicle registrations, etc., may be found in the Motor Vehicle Regulations booklet, issued upon the registration of the student's vehicle.

College Police

The College police are authorized to enforce all regulations regarding parking and traffic and to issue citations for violations.

Living Accommodations

The College does not maintain dormitories. Students who live away from home while enrolled at Middlesex are responsible for arranging their own living accommodations.

STUDENT RIGHTS

Access to Student Records - Family Educational Rights and Privacy Act of 1974

Annually, Middlesex County College informs students of the Family Educational Rights and Privacy Act of 1974. This Act, with which the College complies fully, was designated to protect the privacy of education records, to establish the right of students to inspect and review their education records, to challenge the contents of their education records, to have a hearing if the outcome of the challenge is unsatisfactory, to submit an explanatory statement for enclosure in the record if the outcome of the hearing is unsatisfactory, to prevent disclosure, with certain exceptions, of personally identifiable information, and to secure a copy of the College policy which includes the location of all education records. Students also have the right to file complaints with the Family Educational Rights and Privacy Act Office (FERPA), Department of Education, Room 4511, Switzer Building, Washington, D.C. 20202, telephone (202) 655-4000, concerning alleged failures by the College to comply with the Act.

Institutional policy explains in detail the procedures to be used by the College for compliance with the provisions of the Act. Copies of the policy are available in the following offices: Office of the Registrar, Counseling and Placement Services, and Division of Continuing Education and Instructional Resources. The policy is also printed annually in Quo Vadis, the student newspaper. The offices mentioned also maintain a directory of records which lists all education records maintained on students by the College.

Questions concerning the Family Educational Rights and Privacy Act may be referred to the Registrar.

Directory Information

Middlesex County College hereby designates the following categories of student information as public or 'Directory Information.' Such information may be disclosed by the college at its discretion.

Category I - Name, program of study, enrollment status (full- or part-time), dates of enrollment, date of actual or anticipated graduation, degree earned, and any honors received.

Category II - Postal address, i.e., city, town, or township and state, but not including street address (to be released to Office of Public Information for the purpose of media distribution in connection with Dean's List and graduation).

Category III - Social security number, current address, telephone number (to be released to College police, for the purpose of investigation of campus traffic violations,



and encumbrance of student transcripts in connection with violation charges).

Category IV - Permanent home address (to be released by the international students advisor in compliance with appropriate and necessary institutional reports).

Category V - Name, address, telephone number, program of study, enrollment status (full-time or part-time), dates of enrollment, date of actual or anticipated graduation, degree earned, and any honors received (to be released to college-affiliated corporations, such as the Middlesex County Retail Services Corporation, the Middlesex County College Foundation and similar organizations for their exclusive use, for the purpose of providing information and services to current and former students).

Currently enrolled students may withhold disclosure of any category of information under the Family Educational Rights and Privacy Act of 1974. To withhold disclosure, written notification must be received in the Office of the Registrar. Forms requesting the withholding of 'Directory Information' are available in that office. Middlesex County College assumes that failure on the part of any student to specifically request the withholding of categories of 'Directory Information' indicated individual approval for disclosure. A new form for nondisclosure must be completed each academic year.

CODE OF STUDENT CONDUCT

The Code of Student Conduct is undergoing revision. Please check with your Division Dean's Office for the current version.

Students of Middlesex County College may be suspended, placed on probation, or given a lesser sanction for the following causes, which must be County College related:

Violations

1. Forgery, alteration or misuse of any official college document, records, student or faculty identification or credit card.
2. Unauthorized use of, or misuse, including mutilation and/or defacing of educational materials, college records or college property.
3. Construction of or actual possession of firearms, inherently dangerous or explosive materials including fireworks.
4. Threat of, or inflicting bodily harm or physical abuse or injury to the person of a fellow student, faculty or staff member, administrative officer or guest of the College.
5. Theft, misappropriation, vandalism, non-accidental damage, grossly negligent damage or arson to any College property or private property of a fellow student, faculty or staff member, administrative officer or guest of the College.
6. Physical or verbal obstruction or disruption of teaching, research, administration disciplinary proceedings or

any other office or authorized College program event, function or activity.

7. Resisting a campus police officer while acting in the performance of his/her duties on the College premises, or intentionally ignoring citations issued by campus police officers.
8. Unauthorized entry into any secured College building or facility.
9. Obstructing access to any campus building or other facility and unregistered, unreserved or unauthorized use or occupation of any College meeting facilities, classrooms, public or common indoor or outdoor areas, teaching, research, recreational, athletic, faculty offices or other components of the College physical plant or property.
10. Use of or actual possession, distribution, transfer or sale of narcotics, hallucinogenic agents and abusive drugs.
11. Failure to register the dissemination of printed material or unauthorized display of posters and advertising material.
12. Abusive or unauthorized use and operation of outdoor and indoor sound systems, public address systems, sound tracks, or bull horns.
13. Furnishing false information to the College with intent to deceive.
14. Unauthorized consumption and/or unauthorized possession of alcoholic beverages on campus.
15. Cheating or plagiarism in connection with an academic program at the College.
16. Failure, after a warning, to wear adequate clothing and foot covering while attending classes or utilizing any campus facility.
17. Smoking in areas designated "No Smoking."
18. Consumption of food and beverages in classrooms, lounges and hallways of classroom buildings, laboratories, and the library.
19. Gambling on College property.
20. The violation of any of the criminal statutes of the State of New Jersey which violation occurs either on the College campus or directly affects the college community.
21. Soliciting or assisting another to do any act which would subject a student to suspension or probation.

Sanctions

The various penalties for the commission of a violation are set forth hereafter. Upon a finding of guilty of any violation, one or more of the listed sanctions may be imposed, accumulatively or in the alternative. The maximum penalty for the commission of said violation shall be an indefinite suspension from the College.

- a. **Warning:** Notice, orally or in writing that continuation or repetition of conduct found wrongful may be cause for more severe disciplinary action.

- b. **Censure:** A written reprimand which becomes a part of the student's file and includes the possibility of more severe disciplinary sanctions in the event of the finding of a subsequent violation of a College regulation.
 - c. **Probation:** Exclusion from participation in privileged or extracurricular College activities for a period not exceeding one academic year.
 - d. **Suspension:** Exclusion from participation in all College programs, academic and extracurricular.
 - e. **Fines:** A money penalty not to exceed \$200.00 to cover the costs of replacing physical property to the College intentionally damaged or stolen by any student, or damaged through the gross negligence of the student. The payment of any fine by students shall in no way limit the right of the College to seek restitution for appropriate damages through appropriate civil proceedings.
2. If students wish to plead innocent, an informal hearing will be held before the Vice President. At said hearing, the dean will present the charges and evidence supporting said charges. Students have the right to be present at the hearing, be informed of the evidence considered against them, have an opportunity to rebut it and to present evidence on their own behalf and have the assistance of an advisor of their choice.
 3. If after said hearing the Vice President shall determine that either the student is innocent or that the violation committed by the student warrants as a penalty only a warning or censure, he/she shall, if applicable, assess said penalty and the matter shall be deemed closed.
 4. If after said hearing the Vice President shall determine that the violation committed by the student warrants either probation, suspension, or the levying of a fine, he/she shall advise the student, who shall then have a period of 15 days to request a hearing before the Judicial Board. If the student does not request such a hearing within such time, the Vice President shall determine the sanction and advise the student in writing of such sanction, or may refer the matter to the Judicial Board. If the student or Vice President requests such a hearing, the dean shall forward the reports and evidence concerning the case to the College Judicial Board for action. Thereafter, the dean will be concerned with presenting the charges to the Board and receiving the report of the finding of the Board and aiding the student to comply with any punishment decreed by the Board.

DISCIPLINARY PROCEDURES

A. Complaints

1. Charges of violations of the Code of Student Conduct may be made by any member or guest of the College community, or by any representative of any department or agency of the College.
2. Charges shall be in writing and shall be filed with the Office of the Vice President for Academic Affairs (hereafter "Vice President"). Upon such filing, the Vice President shall notify the dean in charge of that student of the charge.
3. The appropriate dean shall then investigate the alleged violation of the Code of Student Conduct. If he/she determines that there is no substance to the charge, he/she shall notify the Vice President and all charges shall be dropped. In the event that the dean determines that the charge warrants as a penalty only a warning, the dean will meet with the student to discuss the charge and issue the warning. The issuance of the warning terminates the complaint.
4. If the dean determines that there is sufficient evidence to warrant a penalty other than a warning, the dean will prepare and serve on the person charged a complaint setting forth the nature, time, and place of the violation charged. The complaint will be served on the person charged within 30 days of the filing of charges. Service of the complaint will be in person or by certified mail, return receipt requested, addressed to the person. The complaint will be accompanied with notification of the date, time and place of a hearing with the Vice President.

B. Information Hearings

1. If students wish to plead guilty to the complaint and waive their right to a hearing, they may do so by signing a written waiver to this effect. The student will return the waiver to the dean who will make recommendation of disciplinary action to the Vice President who in turn will assign appropriate sanctions.

C. Judicial Board Hearings

1. The College Judicial Board shall then serve on the person charged notification of the date, time and place of the hearing before the Board, which date shall not be less than 10 days from the date of service. Service of the complaint shall be in person or by certified mail, return receipt requested, addressed to the person. A copy of this notification shall be filed in the Office of the Vice President and the respective division dean. In addition, the College Judicial Board shall instruct the dean to forward to the student immediately a list of witnesses and a copy of their statements or complaints which the complainant intends to submit against him/her.
2. If after due notice of the complaint and the date of hearing, the student fails to appear, and the majority of the Judicial Board is satisfied that the student had appropriate notice of the complaint and date of the hearing and no valid excuse for not appearing, the Board may then hold the hearing without the student present.
3. Decision in all cases shall be determined by a simple majority vote of the members present.
4. The Board shall follow the Rules Governing Procedures attached hereto. In addition, the Board may adopt any other procedural rules which are not inconsistent

with these rules in order to assure a fair and impartial hearing. Within 15 days of the conclusion of the hearing, the College Judicial Board shall file a report containing findings of fact and conclusions as to the validity of the charges. The report along with recommendations of disciplinary action shall be filed with the Vice President. If the hearing was conducted in the absence of the individual charged, the report shall so indicate.

D. Imposition of Sanctions

If the person charged is found guilty, the Vice President shall impose any sanction or sanctions. A report of findings and imposition of sanctions shall be forwarded to the respective division dean and served on the person charged in person or by certified mail, return receipt requested, addressed to the person.

E. Appeals

1. Within 30 days of the student's receipt of notice of the Board's disposition of the case and subsequent imposition of sanctions by the Vice President, the student may appeal the decision to the President. Such notice shall be in writing and shall not be subject to any other formal requirements except to reasonably express his/her desire to appeal the decision. Upon receipt of such notice, the President shall advise the chairperson of the Board and the Vice President that such an appeal has been filed. They shall then make the record of the proceedings available to the President.

2. The President may give the appellant an opportunity to present his/her reasons for the appeal, and if in the President's discretion it is desirable, may hear from the dean, Vice President, and representatives from the Board. After hearing the student and such others as deemed appropriate, and considering the record of the Board, the President shall make the final decision and set the sanction.

F. Administrative Suspension

Pending the completion of the hearing before the Board and the imposition of sanctions, the status within the College of the person charged shall not be altered unless his/her continued presence on campus shall be found by the Vice President to constitute a serious threat to the college community or to the property of the college. Such findings shall be preceded by an appropriate hearing before the Vice President unless extraordinary circumstances preclude a hearing. In any case, the Vice President is authorized to suspend the person charged, and the temporary suspension is to remain in effect pending the completion of the hearing before the Board and final determination of the case.

G. Pending Criminal Proceedings

On written motion of the person charged, filed in the Office of the Vice President any time before the hearing begins before the Board, the hearing before the Board

shall be postponed until disposition at the trial court level of any pending criminal proceedings arising out of the same conduct, provided however that students who are convicted of a criminal offense arising out of the same conduct and are charged with the violation of a college rule shall be ineligible to register at the college in the semester following their conviction and thereafter unless and until the college charges against them have been heard and decided.

COLLEGE JUDICIAL BOARD

A College Judicial Board shall be organized to hear cases referred to it by the Vice President or brought before it by students facing charges.

A. Composition of the Board

The College Judicial Board shall consist of 12 persons: seven students and five faculty members. A faculty member shall be elected chairperson of the College Judicial Board by the other members for a one-year term. The responsibilities of the chairperson will be to insure that the RIGHT TO DUE PROCESS is not abridged and that the College Judicial Board holds its hearings in accordance with procedures set forth herein. A simple majority of the members of the Board shall constitute a quorum.

B. Eligibility

A student member of the College Judicial Board shall be a student who has been enrolled at least one semester and has at least a 2.0 cumulative average.

C. Appointment Process

Students and faculty shall be nominated for membership on an individual basis by each respective Division Council (faculty members: one each from Social Sciences and Humanities, Business Technologies, Engineering Technologies, and Continuing Education and Instructional Resources; student members: two each from Social Sciences and Humanities and Business Technologies, one each from Engineering Technologies and Science, Health Technologies, and Continuing Education and Instructional Resources) and forwarded to the Vice President, who shall make the final appointment of the members of the College Judicial Board. Appointments shall be made within the first 30 days of the Fall semester.

D. Terms of Office

Students and faculty members shall be appointed for one-year terms. In the event of a resignation, an appointment will be made after nomination by the appropriate body for the length of the unexpired term.

E. Jurisdiction

The Judicial Board shall be the principal campus-wide committee with jurisdiction to hear all charges of student misconduct which have as a possible penalty either probation, suspension, or the levying of a fine. After careful deliberation the Board will recommend appropriate action to the Vice President. The Vice

President in turn will impose appropriate sanctions if students are found to be guilty.

The Judicial Board shall have the authority to prescribe supplementary rules of procedure consistent with the requirements contained herein. The Board may also, on request, render written advisory opinions concerning the meaning and application of this code, or of the rules and regulations promulgated pursuant to this code.

Rules Governing Procedures of the College Judicial Board and Procedural Rights of Individuals Charged

1. The Judicial Board proceedings is de novo, that is, without reference to any matter developed previously in an informal proceeding in which disciplinary action was considered.
2. No member of the Judicial Board, who has previously participated in the particular case or who would appear as a participant before the Board itself, shall sit in judgment during that particular proceeding.
3. Hearings before the Judicial Board shall be held in private unless students charged request that the public be admitted. The public may then be admitted subject to the following stipulations:
 - a. That in the event of disorder or disruption of the hearing by spectators, the Board may order the hearing closed to the public.
 - b. The Board may order all spectators excluded from the hearing during the testimony of a witness when the Board concludes that such exclusion is necessary and appropriate to avoid embarrassing publicity for a witness.
4. Persons charged shall have the right to be represented by an attorney or any other representative of their choice from within or without the College community.
5. Persons charged shall have the right to be informed of the identity of the person initiating the charges against them and the right to hear the witnesses against them, subject to reasonable rules of procedure, the right to cross-examine such witnesses either personally or by their representative.
6. Persons charged shall have the right to produce witnesses in their own defense. The Board may limit the number of repetitive witnesses in order to avoid dilatory tactics.
7. Persons charged shall have the right to testify in their own behalf, or to refuse to testify without such refusal being construed against them.
8. The charges may be presented by either the appropriate Dean or legal counsel or another agent of the College appointed by the Vice President.

9. A written transcript or other record of the hearing shall be made and preserved for not less than 60 days after persons charged have been notified of the Board's action in the case. In the event no appeal is taken from the Board's action within the time set for such appeal, the transcript or record may be destroyed.
10. Order of Business:
 - a. Call to Order, Chairperson
 - b. Statement of case to be heard, Chairperson
 - c. Opening Statement, Complainant or College Delegate
 - d. Opening Statement, Defendant or Advisor
 - e. Presentation and cross-examination of evidence and witnesses for the prosecution
 - f. Presentation and cross-examination of evidence and witnesses for the defense
 - g. Closing Statement, Complainant or College Delegate
 - h. Closing Statement, Defendant or Advisor
 - i. Closing comments and announcement regarding the calendar, Chairperson
 - j. Adjournment, Chairperson
11. Deliberations of the Board shall be conducted out of the presence of persons charged with misconduct and with no other persons or spectators present.
12. No record or transcript of the Board's deliberation shall be made except a formal record of the Board's action.

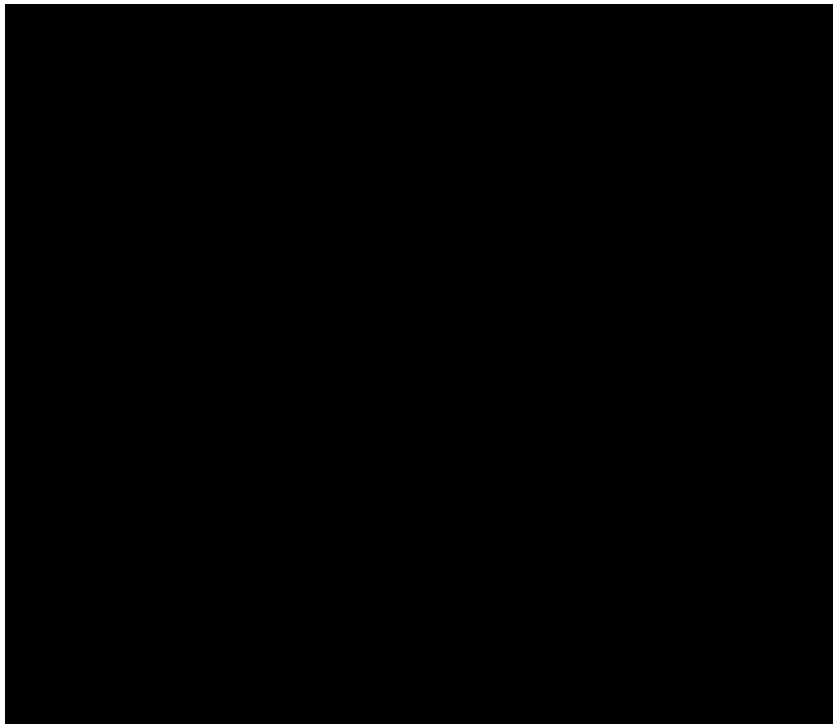
SEXUAL HARASSMENT POLICY

The College reaffirms its desire to create an academic/work environment for all students, faculty and staff that is not only responsible but supportive and conducive to the achievement of educational/career goals on the basis of such relevant factors as ability and performance. All students, faculty and staff at Middlesex County College have the right to expect administration to maintain an environment which allows them to enjoy the full benefits of their work or learning experiences. Therefore, the use of implicit or explicit sexual harassment to control, influence or affect the performance or status of an individual, regardless of where such conduct is initiated, will not be tolerated.

Sexual harassment is prohibited by the Civil Rights Act of 1964, Title VII, Section 703, and by the Educational Amendment of 1972, Title IX. Middlesex County College intends to abide by the law. Immediate and appropriate corrective action will be taken should any student, faculty member, staff or administrative employee be found guilty of this illegal behavior.

The complete sexual harassment policy and complaint procedure is available in the Library and the Office of the Assistant to the President for Employee Relations, Personnel and Administrative Services.

DIVISION OF BUSINESS TECHNOLOGIES



The Division of Business Technologies provides the environment and experiences which promote vocational competence, individual growth, and social responsibility in students preparing for careers in the business world. These encompass accounting, business administration, credit and financial management, dietetic technology, professional food preparation, hotel, restaurant, and institution management, legal assistant, management, marketing, transportation distribution, advertising graphics design, professional commercial photography, fashion merchandising and retail management, and office systems technology.

The Division's educational programs blend classroom lecture and laboratory experiences so that students might put into practice the facts, principles, and theories that are fundamental to understanding their specialized field of study. The curriculums blend a general education with the development of occupational skills. Graduates of the programs in the Division of Business Technologies earn the associate in applied science degree* or the associate in science degree.**

Cooperative Education, a program of learning that integrates classroom theory with practical work experience in business facilities within the county, is an important component of most of the programs of the Division. Students attend classes in the morning and earn college credit by working on approved jobs in the afternoon.

All students matriculated in AS or AAS degree programs in the Division of Business Technologies must demonstrate proficiency in Keyboarding/Typewriting by either completing OST 010, Keyboarding for Computers, or by appropriate waiver of the Office Systems Technology Department Chairman.

ROBERT M. FISHCO, Professor and Dean

*This program emphasizes preparation for careers. Graduates who plan to transfer to upper division colleges are subject to the transfer policy of the receiving colleges which may or may not accept all or part of the credits earned.

**This program emphasizes preparation for transfer to upper division colleges.

PROGRAM FACULTY

Accounting and Legal Studies Department

Chairperson: Thomas J. McCoy, *Professor*

Professors: Andrew Butula and Thomas J. Regan

Associate Professors: John W. Errickson, Angelina Gincel, Frank R. Molitor, Anna Sadowska and Dorothy Steinsapir

Assistant Professors: David Bourque, Thomas Feehan, Lionel Held, Michael Landers, Charles Tornatore and H.

Kneeland Whiting

Instructor: Jean Volk

Business Administration and Management Department

Chairperson: Patricia A. Graber, *Professor*

Professor: Arthur T. Peterson

Associate Professors: Nancy Bailey, Xenia Balabkins, Sanford B. Helman and Robert W. Higgins

Assistant Professor: Brian de Uriarte

Instructor: James Brackenridge

Hotel, Restaurant, and Institution Management Department

Chairperson: Marilyn Laskowski-Sachnoff, *Associate Professor*

Associate Professor: Joseph F. Vastano

Assistant Professors: Deborah A. Keenan-Lynch, Ralph Tellone and Richard J.

Waidelich

Marketing Art and Design Department

Chairperson: James B. Stewart, *Instructor*

Associate Professor: Frank E. Schultz

Assistant Professors: Sebastian Messina, Anita Sagarese and Hans D. Walther

Instructor: Francine Krinsky

Office Systems Technology Department

Chairperson: Carol Pam, *Professor*

Associate Professor: Carol Pam

Assistant Professors: Mary Lynch, Ethel Reid and Judith Spano

Students may be required to take developmental coursework as a result of their performance on the NJ College Basic Skills Placement Test. In those cases, students may take additional semesters or summer semester to complete all program requirements for graduation (refer to page 26 for additional information).

All students matriculated in AS or AAS degree programs in the Division of Business Technologies must demonstrate proficiency in keyboarding/typewriting, by either completing OST 010 Keyboarding for Computers, an appropriate typewriting course or by appropriate waiver of the Office Systems Technology Chairperson.

ACCOUNTING

Associate in Applied Science Degree

Accounting is one of the most rapidly expanding fields in today's economy. Since it is service oriented, it involves working with people almost as much as with financial records. The accountant not only collects and reports financial data, but also serves as the link between the data and the people who use it. Career opportunities exist in business, industry, government, and education.

Students who choose the accounting program receive not only an extensive background in accounting, but a strong fundamental knowledge of the major functions of business and industry. Students take courses in business law, business organization and management, mathematics and economics.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|---|-----------|
| ACC 101 Financial Accounting | 4 |
| BUS 101 Business Organization and Management | 3 |
| BUS 107 Introduction to Business Data Processing* | 3 |
| ENG 121 English Composition I | 3 |
| Mathematics Elective** | 3 |
| Subtotal | 16 |

SEMESTER II

| Course Code | Credits |
|--------------------------------|-----------|
| ACC 102 Managerial Accounting | 4 |
| BUS 201 Business Law I | 3 |
| ENG 122 English Composition II | 3 |
| Humanities Elective | 3 |
| Social Science Elective | 3 |
| Subtotal | 16 |

SEMESTER III

| Course Code | Credits |
|-----------------------------------|---------|
| ACC 202 Cost Accounting | 4 |
| ACC 211 Intermediate Accounting I | 4 |
| BUS 202 Business Law II | 3 |
| ECO 201 Principles of Economics I | 3 |
| Physical/Health Education | 1-3 |

Science Elective*** 3
Subtotal 18-20

SEMESTER IV

| Course Code | Credits |
|---|--------------|
| Choice of (1) of the following: (3 credits each) | |
| ACC 203 Accounting Systems and Procedures | 3 |
| ACC 206 Tax Accounting | 3 |
| ACC 208 Accounting Field Experience | 3 |
| ACC 212 Intermediate Accounting II | 4 |
| ACC 280 Senior Accounting Seminar | 3 |
| ECO 202 Principles of Economics II | 3 |
| Humanities Elective | |
| or | |
| Social Science Elective | 3 |
| Subtotal | 16 |
| TOTAL CREDITS | 66-68 |

*Students are required to attain a passing grade in OST 010, Keyboarding for Computers, or must obtain an approved waiver demonstrating proficiency in keyboarding prior to enrolling in BUS 107, Introduction to Business Data Processing. Students who have not satisfied the above must enroll in OST 010, Keyboarding for Computers, at the same time they enroll in BUS 107, Introduction to Business Data Processing.

**BUS 115, Mathematics of Finance is recommended. Students, in consultation with their Academic Advisor, should enroll in a Mathematics course for which they have the appropriate academic prerequisites.

***Students may elect courses offered by the Biology, Chemistry, or Physics Department for which they have an appropriate academic background

BUSINESS ADMINISTRATION TRANSFER

Associate in Science Degree

This program is offered by the Business Administration and Management Department. The curriculum is designed for students who intend to transfer to upper division colleges and universities and who want an intensive program with challenging math and business courses, along with required sciences and humanities.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|--|-----------|
| ENG 121 English Composition I | 3 |
| MAT Mathematics Requirement* | 3 |
| ACC 101 Financial Accounting | 4 |
| BUS 101 Business Organization and Management | 3 |
| Humanities Elective | |
| or | |
| Social Science Elective** | 3 |
| Subtotal | 16 |

SEMESTER II

| Course Code | Credits |
|-----------------------------------|---------|
| ENG 122 English Composition II | 3 |
| MAT Mathematics Requirement* | 3 |
| ACC 102 Managerial Accounting | 4 |
| ECO 201 Principles of Economics I | 3 |
| Humanities Elective | |
| or | |



| | |
|---------------------------|----|
| Social Science Elective** | 3 |
| <i>Subtotal</i> | 16 |

SEMESTER III

| <i>Course Code</i> | <i>Credits</i> |
|---|----------------|
| ECO 202 Principles of Economics II | 3 |
| BUS 201 Business Law I | 3 |
| Humanities Elective** | |
| or | |
| Social Science Elective | 3 |
| BUS 107 Introduction to Business Data Processing*** | 3 |
| Business Elective | 3 |
| Physical/Health Education | 1-3 |
| <i>Subtotal</i> | 16-18 |

SEMESTER IV

| <i>Course Code</i> | <i>Credits</i> |
|-------------------------|----------------|
| Humanities Elective** | |
| or | |
| Social Science Elective | 3 |
| Science Requirement | 4 |
| Free Elective | 3 |
| Business Elective | 3 |
| Business Elective | 3 |
| <i>Subtotal</i> | 16 |
| TOTAL CREDITS | 64-66 |

*Students must complete a minimum of 6 credits of Mathematics in the following sequences: MAT 123 and 124; or MAT 125 and 126; or MAT 129 and 131; or MAT 131 and MAT 132; or MAT 131 and 285.

**Students must complete six credits of Humanities and six credits of Social Sciences.

***Introduction to Business Data Processing. Students may select an alternate Computer Science course for which they have appropriate academic advisement and preparation in mathematics.

DIETETIC TECHNOLOGY

Associate in Applied Science Degree

This two-year program offered by the Hotel, Restaurant and Institution Management Department is designed to give students the appropriate educational background and clinical training needed to function as a dietetic technician in a health care facility. The emphasis is on management of food service systems and nutrition care. The program is designed to prepare the graduate to function at the mid-management level in assessment, planning, implementation, and evaluation of the food service operation, and in maintenance of adequate nutritional care. The program is approved by The American Dietetic Association and the Dietary Managers Association. Graduates are eligible for membership and registration in the American Dietetic Association and are

eligible to meet requirements for certification by the Dietary Managers Association.

Sample Two-Year Plan of Study

SEMESTER I

| <i>Course Code</i> | <i>Credits</i> |
|--|----------------|
| ENG 121 English Composition I | 3 |
| HRI 208 Environmental Sanitation in Foodservice Operations | 3 |
| HRI 103 Principles of Food Selection & Preparation | 3 |
| HRI 105 Basic Nutrition | 3 |
| DTC 101 Introduction to Dietetic Technology | 1 |
| BUS 107 Introduction to Business Data Processing | 3 |
| <i>Subtotal</i> | 16 |

SEMESTER II

| <i>Course Code</i> | <i>Credits</i> |
|---|----------------|
| ENG 122 English Composition II | 3 |
| HRI 108 Quantity Food Production | 3 |
| HRI 210 Nutrition in Modified Diet | 3 |
| HRI 110 Supervisory Development in the Lodging & Foodservice Industry | 3 |
| DTC 102 Orientation to Dietary Services | 1 |
| DTC 208 Supervised Field Experience in Foodservice Management Systems I | 3 |
| Physical/Health Education | 1-3 |
| <i>Subtotal</i> | 17-19 |

SEMESTER III

| <i>Course Code</i> | <i>Credits</i> |
|--|----------------|
| HRI 203 Volume Food Management & Production | 4 |
| HRI 213 Health Facilities Foodservice Management | 3 |
| DTC 209 Supervised Field Experience in Foodservice Management Systems II | 4 |
| PSY 123 Introductory Psychology | 3 |
| BIO 106 Human Biology, Biomedical Issues & Society** | 4 |
| <i>Subtotal</i> | 18 |

SEMESTER IV

| <i>Course Code</i> | <i>Credits</i> |
|---|----------------|
| HRI 205 Food & Beverage Controls & Purchasing | 3 |
| MAT 101 Freshman Math I* | 3 |
| Humanities Elective | 3 |
| SOC 121 Sociology I | 3 |
| DTC 210 Supervised Field Experience in Foodservice Management Systems III | 4 |
| DTC 220 Seminar in Dietetic Technology | 1 |
| <i>Subtotal</i> | 17 |
| TOTAL CREDITS | 68-70 |

Required for graduation — 68 credits

*MAT 101, Freshman Mathematics I recommended. Students, in consultation with their Academic Advisor, may enroll in a General Education Mathematics course for which they have the appropriate prerequisites.

**Students are required to take BIO 106, Human Biology, Biomedical Issues and Society according to mandates of the American Dietetic Association.

FASHION MERCHANDISING AND RETAIL MANAGEMENT

Associate in Applied Science Degree

The fashion merchandising and retail management curriculum is designed to prepare students for the many challenging opportunities that exist in the field of retailing. The program of study consists of a combination of general education, business, and retailing courses selected to provide students with both a general and a specific background for a career in retailing. Through cooperative work experience, students are able to apply classroom theory to on-the-job situations. Multimedia instruction and a fully-equipped retail laboratory offer students realistic preparation.

Few areas of employment offer a better outlook for trained personnel than the field of fashion merchandising and retail management. Career opportunities abound in the areas of fashion merchandising, sales promotion, retail advertising, and supportive retail service. Graduates of the program may find work in department stores, specialty shops, discount stores, as retailing executives, assistant buyers, assistant department managers, executive trainees, advertising assistants, and assistant fashion coordinators.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|--|---------|
| BUS 101 Business Organization and Management | 3 |
| BUS 107 Introduction to Business Data Processing | 3 |
| ENG 121 English Composition I | 3 |
| RET 201 Fashion Merchandise Information | 4 |
| Mathematics Elective* | 3 |
| <i>Subtotal</i> | 16 |

SEMESTER II

| Course Code | Credits |
|---|---------|
| ACC 101 Financial Accounting | 4 |
| BUS 201 Business Law I | 3 |
| ENG 122 English Composition II | 3 |
| MKT 201 Marketing I | 3 |
| RET 207 Retail Advertising, Sales Promotion, & Display | 3 |
| <i>Subtotal</i> | 16 |

SEMESTER III

| Course Code | Credits |
|---|---------|
| ACC 102 Managerial Accounting | 4 |
| MKT 143 Salesmanship | 3 |
| RET 202 Retail Buying and Merchandising | 3 |
| RET 205 Store Field Experience I | 3 |
| Humanities Elective | 3 |
| Physical/Health Education | 1-3 |
| <i>Subtotal</i> | 17-19 |

SEMESTER IV

| Course Code | Credits |
|-----------------------------------|--------------|
| ECO 201 Principles of Economics I | 3 |
| RET 204 Retail Management | 3 |
| RET 206 Store Field Experience II | 3 |
| Social Science | |
| or | 3 |
| Humanities Elective | |
| Science Requirement** | 3 |
| General Education Elective | 3 |
| <i>Subtotal</i> | 18 |
| TOTAL CREDITS | 67-69 |

*BUS 115, Mathematics of Finance is recommended. Students, in consultation with their Academic Advisor, should enroll in a Mathematics course for which they have the appropriate academic prerequisites.

**Students may elect courses offered by the Biology, Chemistry, or Physics Department for which they have the appropriate academic preparation.

HOTEL, RESTAURANT, AND INSTITUTION MANAGEMENT

Associate in Applied Science Degree

The Hotel, Restaurant, and Institution Management program provides students with the necessary practical and theoretical skills for employment in one of the nation's fastest growing industries. Graduates may be employed as an assistant restaurant manager, hotel/motel assistant manager, front office manager, dining room manager, cafeteria production manager, or management trainee.

The associate degree program has been designed to provide students with occupational training in restaurant and food service management or hotel-motel management. Students with limited related industry experience are encouraged to enroll in a cooperative work experience seminar that includes paid employment in the final semester.

NOTE: Certain major course electives are offered only through the Division of Continuing Education and Instructional Resources in the evening.

Hotel-Motel Management Option

Sample Two-Year Plan of Study

SEMESTER I

| Course | Code | Credits |
|--|------|---------|
| Mathematics Requirement* | | 3 |
| ENG 121 English Composition I | | 3 |
| HRI 101 Introduction to Hotel, Restaurant, and Institution Management | | 3 |
| HRI 103 Principles of Food Selection and Preparation | | 3 |
| HRI 208 Environmental Sanitation in Foodservice Operations | | 3 |
| Physical/Health Education | | 1-3 |
| <i>Subtotal</i> | | 16-18 |



SEMESTER II

| Course Code | Credits |
|--|-----------|
| ACC 108 Accounting Practices for Hotels, Restaurants, and Institutions | 4 |
| BUS 107 Introduction to Business Data Processing | 3 |
| ENG 122 English Composition II | 3 |
| HRI 108 Quantity Food Production | 3 |
| HRI 110 Supervisory Development in the Lodging & Foodservice Industry | 3 |
| <i>Subtotal</i> | <u>16</u> |

SEMESTER III

| Course Code | Credits |
|--|-----------|
| Social Science Elective | 3 |
| HRI 201 Hotel-Motel Front Office Operations | 3 |
| HRI 206 Merchandising for the Hospitality Industry | 3 |
| Humanities Elective | 3 |
| HRI 217 Supervisory Housekeeping | 3 |
| PSY 123 Introductory Psychology | 3 |
| <i>Subtotal</i> | <u>18</u> |

SEMESTER IV

| Course Code | Credits |
|---|--------------|
| HRI 203 Volume Food Management & Production | 4 |
| HRI 216 Hospitality Property Management | 3 |
| Science Elective** | 3 |
| HRI Elective | 3 |
| General Education Elective | 3 |
| <i>Subtotal</i> | <u>16</u> |
| TOTAL CREDITS | 63-68 |

SEMESTER III

| Course Code | Credits |
|--|-----------|
| HRI 203 Volume Food Management & Production | 4 |
| HRI 206 Merchandising for the Hospitality Industry | 3 |
| PSY 123 Introductory Psychology | 3 |
| Humanities Elective | 3 |
| HRI HRI Elective | 3 |
| <i>Subtotal</i> | <u>16</u> |

SEMESTER IV

| Course Code | Credits |
|---|--------------|
| HRI 202 Facilities Layout and Design | 3 |
| HRI HRI Elective | 3 |
| HRI 205 Food & Beverage Controls & Purchasing | 3 |
| General Education Elective | 3 |
| Science Elective** | 3 |
| Social Science Elective | 3 |
| <i>Subtotal</i> | <u>18</u> |
| TOTAL CREDITS | 63-68 |

*BUS 115, Mathematics of Finance is recommended. Students, in consultation with their Academic Advisor, should enroll in a Mathematics course for which they have the appropriate academic prerequisites.

**Students may elect courses offered by the Biology, Chemistry, or Physics Department for which they have appropriate academic background.

FOOD PREPARATION

Certificate Program

This certificate program is designed for students who wish to develop practical food preparation skills. It includes a culinary externship to enable students to gain valuable on-the-job experiences.

Students in this program will receive instruction in the development of culinary skills, sanitation and safety, quantity food production, and foodservice management.

Courses completed in the certificate program can be applied to the Associate in Applied Science Degree.

Required Courses

| Course Code | Credits |
|--|-----------|
| HRI 103 Principles of Food Selection & Preparation | 3 |
| HRI 107 Baking Fundamentals | 3 |
| HRI 108 Quantity Food Production | 3 |
| HRI 111 Professional Food Preparation Practicum | 3 |
| HRI 114 Garde Manger | 3 |
| HRI 115 Foodservice Operations | 3 |
| HRI 203 Volume Food Management & Production | 4 |
| HRI 205 Food & Beverage Cost Controls & Purchasing | 3 |
| HRI 208 Environmental Sanitation | 3 |
| ENG 121 English Composition I | 3 |
| General Education Elective | 3 |
| TOTAL CREDITS | 34 |

Restaurant Foodservice Management Option**Sample Two-Year Plan of Study****SEMESTER I**

| Course Code | Credits |
|---|--------------|
| Mathematics Requirement* | 3 |
| ENG 121 English Composition I | 3 |
| HRI 101 Introduction to Hotel, Restaurant, & Institution Management | 3 |
| HRI 103 Principles of Food Selection & Preparation | 3 |
| HRI 208 Environmental Sanitation in Foodservice Operations | 3 |
| Physical/Health Education | 1-3 |
| <i>Subtotal</i> | <u>16-18</u> |

SEMESTER II

| Course Code | Credits |
|---|-----------|
| ACC 108 Accounting Practices for Hotels, Restaurants, & Institutions | 4 |
| BUS 107 Introduction to Business Data Processing | 3 |
| ENG 122 English Composition II | 3 |
| HRI 108 Quantity Food Production | 3 |
| HRI 110 Supervisory Development in the Lodging & Foodservice Industry | 3 |
| <i>Subtotal</i> | <u>16</u> |

LEGAL ASSISTANT

Associate in Applied Science Degree

A Legal Assistant is a trained specialist, who under the supervision of an attorney, performs a wide variety of legal tasks. These include legal research, law office management and preparation of legal documents.

Employment opportunities for the Legal Assistant are available in law offices, corporate legal departments, legal services corporations, state government offices, title companies, and federal and state courts.

The objectives of the Legal Assistant Program are to:

1. Maintain a strong, flexible program for the quality education of occupationally competent legal assistants.
2. Provide a legal assistant education program which leads to the opportunity for employment of its graduates by a wide range of employers.
3. Provide legal assistants with a well-rounded, balanced education founded on a beneficial mix of general education, theory, and practical courses, stressing understanding and reasoning rather than rote learning of facts.
4. Support the general principle of ethical legal practice, professional responsibility and the prohibitions against the unauthorized practice of law by laymen.
5. Provide an educational program which is responsive to the needs of the State of New Jersey and contributes to the advancement of legal professionals.
6. Provide a program which instills respect for the legal profession and its foundations, institutions, and quest for justice.
7. Maintain equality of opportunity in the educational program without discrimination or segregation on the grounds of race, color, religion, and national origin or sex.

Our overall objective is to provide quality education for legal assistants so that they might assist the legal profession in rendering more personal, economical services to a greater number of persons.

How objectives are met:

1. Through flexible curriculum planning which stresses a balance between general education courses, law related courses, legal specialty courses, and free electives.
2. Through continual assessment of the need for the program as evidenced by the legal profession's response to regular surveys and the ability of the program to place graduates.
3. By keeping the enrollment of the program to a size which will insure a good student-teacher ratio and

give graduates a good chance for legal assistant employment. This will be determined in the same method as number 2 above.

4. By providing the program with a well qualified, full-time director with the necessary time to devote to the extensive administrative duties of the position.

Specifically, upon completion of the program, students should be able to:

1. Use the law library, including encyclopedias, reporter systems, digests, and practice manuals, including updating sources; utilize computer assisted research using WESTLAW, including reporter systems, statutes, administrative codes, updating sources and extended databases.
2. Understand and use rules governing courts and basic litigation procedures including telephone technique, client interviews, complaints, interrogatories, etc.
3. Use forms and filing procedures relevant to legal proceedings such as workers' compensation, negligence, bankruptcies, incorporations, and partnership agreements.
4. Use forms and follow procedures in real and personal property transactions, including Real Estate Settlement Procedures Act.
5. Understand the substantive and procedural aspects of family law in such areas as divorce, adoption, support and separation agreements, including domestic relations court procedures.
6. Understand procedures with respect to wills, estates, trusts, probate, life insurance, and federal and state taxes.
7. Understand principles of tort law, and apply those principles in commonly faced situations in law practice; understand the role of the legal assistant in the preparation of a tort claim or defense.
8. Be familiar with the elements of crime and the criminal procedure system, including incidents before and after trial; analyze the impact of the Constitution on crimes and criminal procedure.

NOTE: For students matriculating in this program, degree credit will not ordinarily be given for any course designated LET which was completed more than six years prior to completion of the degree program.

Sample Two-Year Plan of Study

SEMESTER I

| <i>Course Code</i> | | <i>Credits</i> |
|--------------------|---|----------------|
| BUS 107 | Introduction to Business Data Processing* | 3 |
| ENG 121 | English Composition I | 3 |
| LET 100 | Introduction to Legal Assisting | 2 |
| LET 101 | Legal Research & Writing** | 3 |
| | Mathematics Elective*** | 3 or 4 |

Social Science Elective 3
 Subtotal 17 or 18

SEMESTER II

| Course Code | Credits |
|---|-----------------|
| ECO 201 Principles of Economics I | 3 |
| ENG 122 English Composition II | 3 |
| LET 104 Property Transactions | 3 |
| LET 110 Litigation Procedure | 4 |
| LET 111 Contracts & the Uniform Commercial Code | 3 |
| PED Physical Education | |
| or | |
| HED Health Education | 1 or 3 |
| Subtotal | 17 or 19 |

SEMESTER III

| Course Code | Credits |
|--|-----------|
| ACC 101 Financial Accounting | 4 |
| LET 108 Torts | 3 |
| LET 112 Business Organizations & Govt Regulation | 3 |
| LET Legal Assistant Elective**** | 3 |
| Humanities Elective | 3 |
| Subtotal | 16 |

SEMESTER IV

| Course Code | Credits |
|--|--------------|
| ACC 102 Managerial Accounting | 4 |
| LET 280 Senior Seminar for Legal Assistants***** | 3 |
| LET Legal Assistant Elective**** | 3 |
| Humanities Elective | |
| or | |
| Social Science Elective | 3 |
| Science Elective***** | 3 or 4 |
| Subtotal | 16-17 |
| TOTAL CREDITS | 66 |

*Students are required to attain a passing grade in OST 010, Keyboarding for Computers, or must obtain an approved waiver demonstrating proficiency in keyboarding prior to enrolling in BUS 107, Introduction to Business Data Processing. Students who have not satisfied the above must enroll in OST 010, Keyboarding for Computers, at the same time they enroll in BUS 107, Introduction to Business Data Processing.

**LET 101, Legal Research and Writing: Prerequisites or corequisites ENG 121, English I and LET 100, Introduction to Legal Assisting.

***Mathematics Elective: BUS 115, Mathematics of Finance is recommended. Students in consultation with their Academic Advisor should enroll in a mathematics course for which they have appropriate academic background.

****Legal Assistant Electives: LET 105, Family Law; LET 106, Wills and Estate Administration; LET 107, Law Office Management; LET 109, Criminal Law and Procedure; LET 208, Legal Assistant Field Experience.

*****LET 280, Senior Seminar for Legal Assistants: Prerequisites LET 100, LET 101, LET 104, LET 108, LET 110, LET 111, LET 112.

*****Science Elective: Students may elect courses offered by the Biology, Chemistry, or Physics Department for which they have appropriate academic background.

LEGAL ASSISTANT

Certificate Program

This program is offered exclusively in the evening and students wishing to matriculate must have already earned an A.A., A.S., A.A.S., B.A., or B.S. degree.

Students who have not earned one of the degrees noted above and who are interested in a Legal Assistant Program, should refer to the A.A.S. degree program above.

Required Courses

| Course Code | Credits |
|---|-----------|
| ENG 121 English Composition I | 3 |
| ENG 122 English Composition II | 3 |
| LET 100 Introduction to Legal Assisting | 2 |
| LET 101 Legal Research & Writing | 3 |
| LET 104 Property Transactions | 3 |
| LET 108 Torts | 3 |
| LET 110 Litigation Procedure | 3 |
| LET 111 Contracts & the Uniform Commercial Code | 3 |
| LET 112 Business Organizations & Govt Regulations | 3 |
| LET 280 Senior Seminar for Legal Assistants | 3 |
| Electives (6 credits) | 6 |
| Choose (2) of the following courses: | |
| LET 105 Family Law | |
| LET 106 Wills & Estate Administration | |
| LET 107 Law Office Management | |
| LET 109 Criminal Law and Procedure | |
| LET 208 Legal Assistant Field Experience | |
| TOTAL CREDITS | 36 |

MANAGEMENT

Associate in Applied Science Degree

Management is a people-oriented career, requiring an understanding of the role of management in a complex and dynamic society. Employment and promotion opportunities exist in various aspects of industry, commerce, specialized institutions, and government for those students who have had previous experience in their respective fields. The option in credit and financial management opens career possibilities in credit and finance departments of commercial houses, industrial plants, or any establishment where credit is extended. Credit and finance personnel analyze financial reports and investigate the credit reputations of loan applicants.

The major courses are designed for students who seek to establish or upgrade managerial skills. The program is a comprehensive blend of social science theories, organizational behavior and design, classical management theories, managerial processes, functions, and decision-

making.

NOTE: Certain major courses in the management program are offered only through the Division of Continuing Education and Instructional Resources in the evenings.

Management Option

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|--|-----------|
| ACC 101 Financial Accounting | 4 |
| BUS 101 Business Organization and Management | 3 |
| Mathematics Requirement* | 3 |
| ENG 121 English Composition I | 3 |
| Social Science Elective | 3 |
| Subtotal | 16 |

SEMESTER II

| Course Code | Credits |
|--|-----------|
| ACC 102 Managerial Accounting | 4 |
| BUS 201 Business Law I | 3 |
| ENG 122 English Composition II | 3 |
| BUS 107 Introduction to Business Data Processing | 3 |
| Social Science Elective | 3 |
| or | 3 |
| Humanities Elective | 3 |
| Subtotal | 16 |

SEMESTER III

| Course Code | Credits |
|---|--------------|
| ECO 201 Principles of Economics I | 3 |
| MGT 205 Principles of Labor Relations | 3 |
| MGT 210 Concepts of Business Management | 3 |
| MGT 220 Human Resources Management | 3 |
| Humanities Elective | 3 |
| Physical/Health Education | 1-3 |
| Subtotal | 17-18 |

SEMESTER IV

| Course Code | Credits |
|---|-----------|
| ECO 202 Principles of Economics II | 3 |
| MGT 214 Operations Management | 3 |
| MGT 216 Seminar in Management Experiences | 3 |
| Recommended Business Elective | 3 |
| Science Requirement** | 3 |
| Subtotal | 15 |

TOTAL CREDITS 64-65

*BUS 115, Mathematics of Finance is recommended. Students with the appropriate academic prerequisites, in consultation with their Academic Advisor, should enroll in an appropriate Mathematics course.

**Students may elect courses offered by the Biology, Chemistry, or Physics Department for which they have the appropriate academic preparation.

Credit and Financial Management Option

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|--|---------|
| ACC 101 Financial Accounting | 4 |
| BUS 101 Business Organization and Management | 3 |
| ENG 121 English Composition I | 3 |

| | |
|---------------------------------|-----------|
| PSY 123 Introductory Psychology | 3 |
| Mathematics Requirement* | 3 |
| Subtotal | 16 |

SEMESTER II

| Course Code | Credits |
|--|-----------|
| ACC 102 Managerial Accounting | 4 |
| BUS 201 Business Law I | 3 |
| FIN 201 Credit and Collection Principles | 3 |
| Science Requirement** | 3 |
| ENG 122 English Composition II | 3 |
| Subtotal | 16 |

SEMESTER III

| Course Code | Credits |
|--|--------------|
| BUS 202 Business Law II | 3 |
| ECO 201 Principles of Economics I | 3 |
| FIN 202 Advanced Credits | 3 |
| MGT 220 Human Resources Management | 3 |
| BUS 107 Introduction to Business Data Processing | 3 |
| or | 3 |
| FIN 205 Credit & Financial Management | 3 |
| Field Experience I | 3 |
| Physical/Health Education | 1-3 |
| Subtotal | 16-18 |

SEMESTER IV

| Course Code | Credits |
|---|-----------|
| BUS 205 Business Communications | 3 |
| ECO 202 Principles of Economics II | 3 |
| FIN 203 Problems in Credit Management | 3 |
| SPE 121 Fundamentals of Public Speaking | 3 |
| MKT 201 Marketing I | 3 |
| or | 3 |
| MKT 143 Salesmanship | 3 |
| Subtotal | 15 |

TOTAL CREDITS 63-65

*BUS 115, Mathematics of Finance is recommended. Students with the appropriate academic prerequisites, in consultation with their Academic Advisor, should enroll in an appropriate Mathematics course.

**Students may elect courses offered by the Biology, Chemistry, or Physics Department for which they have the appropriate academic preparation.

MANAGEMENT SUPPORT SERVICES

Certificate Program

| Course Code | Credits |
|--|---------|
| BUS 101 Business Organization and Management | 3 |
| BUS 205 Business Communications | 3 |
| MGT 210 Concepts of Business Management | 3 |
| MGT 220 Human Resources Management | 3 |
| ENG 121 English Composition I | 3 |
| ENG 122 English Composition II | 3 |
| MGT 205 Labor Relations | 3 |



| | |
|-------------------------|-----------|
| Social Science Elective | 3 |
| Business Electives | 6 |
| TOTAL CREDITS | 30 |

MARKETING

Associate in Applied Science Degree

The Distribution of goods and services is one of the fastest growing business fields in the nation. It appeals to alert, vigorous individuals who are capable of bringing new ideas and talents to a dynamic and diversified business establishment. Career possibilities include employment as a marketing trainee, marketing research assistant, advertising assistant, customer relations representative, or sales representative. The Transportation and Distribution option is a senior year elective sequence, preparing graduates for positions in customer servicing, transportation management, and warehousing and inventory supervision.

These programs are designed to provide graduates with a firm base of knowledge of business law, mathematics, accounting, data processing, and economics. These are complemented by courses in the humanities and specific courses in marketing or physical distribution, or materials management.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|--|-----------|
| ACC 101 Financial Accounting | 4 |
| BUS 101 Business Organization and Management | 3 |
| Mathematics Requirement* | 3 |
| BUS 107 Introduction to Business Data Processing | 3 |
| ENG 121 English Composition I | 3 |
| <i>Subtotal</i> | <u>16</u> |

SEMESTER II

| Course Code | Credits |
|--------------------------------|-----------|
| ACC 102 Managerial Accounting | 4 |
| BUS 201 Business Law I | 3 |
| ENG 122 English Composition II | 3 |
| MKT 201 Marketing I | 3 |
| Social Science Elective | 3 |
| <i>Subtotal</i> | <u>16</u> |

SEMESTER III

| Course Code | Credits |
|-----------------------------------|--------------|
| BUS 202 Business Law II | 3 |
| ECO 201 Principles of Economics I | 3 |
| MKT 202 Marketing II | 3 |
| MKT 203 Principles of Advertising | 3 |
| Physical/Health Education | 1-3 |
| Humanities Elective | 3 |
| or | <u>3</u> |
| Social Science Elective | 3 |
| <i>Subtotal</i> | <u>16-18</u> |

SEMESTER IV

| Course Code | Credits |
|-------------|---------|
|-------------|---------|

| | |
|--------------------------------------|--------------|
| ECO 202 Principles of Economics II | 3 |
| MKT 143 Salesmanship | 3 |
| MKT 206 Marketing Management Seminar | 3 |
| or | <u>3</u> |
| MKT 209 Marketing Field Experience | 3 |
| Science Requirement** | 3 |
| Humanities Elective | 3 |
| <i>Subtotal</i> | <u>15</u> |
| TOTAL CREDITS | 63-65 |

*BUS 115, Mathematics of Finance is recommended. Students with the appropriate academic prerequisites, in consultation with their Academic Advisor, should enroll in an appropriate Mathematics course.

**Students may elect courses offered by the Biology, Chemistry, or Physics Department for which they have the appropriate academic preparation.

Materials Management Option

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|--|-----------|
| ACC 101 Financial Accounting | 4 |
| BUS 101 Business Organization and Management | 3 |
| Mathematics Requirement* | 3 |
| BUS 107 Introduction to Business Data Processing | 3 |
| ENG 121 English Composition I | 3 |
| <i>Subtotal</i> | <u>16</u> |

SEMESTER II

| Course Code | Credits |
|---|-----------|
| ACC 102 Managerial Accounting | 4 |
| BUS 201 Business Law I | 3 |
| DIS 101 Concepts of Materials Management, Transportation & Distribution | 3 |
| ENG 122 English Composition II | 3 |
| Social Science Elective | 3 |
| <i>Subtotal</i> | <u>16</u> |

SEMESTER III

| Course Code | Credits |
|---------------------------------------|--------------|
| ECO 201 Principles of Economics I | 3 |
| MMG201 Materials Management I | 3 |
| MGT 205 Principles of Labor Relations | 3 |
| MKT 201 Marketing I | 3 |
| Physical/Health Education | 1-3 |
| Social Science or Humanities Elective | 3 |
| <i>Subtotal</i> | <u>16-18</u> |

SEMESTER IV

| Course Code | Credits |
|------------------------------------|--------------|
| MMG202 Materials Management II | 3 |
| PUR 201 Purchasing Principles | 3 |
| MKT 209 Marketing Field Experience | 3 |
| or | <u>3</u> |
| Recommended Business Elective** | 3 |
| Science Requirement*** | 3 |
| Humanities Elective | 3 |
| <i>Subtotal</i> | <u>15</u> |
| TOTAL CREDITS | 63-65 |

*BUS 115, Mathematics of Finance is recommended. Students with the appropriate academic prerequisites, in consultation with their Academic Advisor, should enroll in an appropriate Mathematics course.

**Elective must be selected after consultation with an academic advisor to insure that a solid foundation is developed in a potential area of application of Materials Management Concepts.



***Students may elect courses offered by the Biology, Chemistry, or Physics Department for which they have the appropriate academic preparation.

MATERIALS MANAGEMENT

Certificate Program

| Course Code | Credits |
|---|-----------|
| BUS 101 Business Organization and Management | 3 |
| BUS 107 Introduction to Business Data Processing | 3 |
| DIS 101 Concepts of Materials Management, Transportation & Distribution | 3 |
| MMG201 Materials Management I | 3 |
| MMG202 Materials Management II | 3 |
| PUR 201 Principles of Purchasing | 3 |
| Appropriate Business Elective* | 3 |
| ENG 121 English Composition I | 3 |
| ENG 122 English Composition II | 3 |
| BUS 205 Business Communications | 3 |
| TOTAL CREDITS | 30 |

*Elective must be selected after consultation with an academic advisor to insure that a solid foundation is developed in a potential area of application of Materials Management Concepts.

Transportation and Distribution Option Associate in Applied Science Degree Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|--|-----------|
| ACC 101 Financial Accounting | 4 |
| BUS 101 Business Organization and Management | 3 |
| Mathematics Requirement* | 3 |
| BUS 107 Introduction to Business Data Processing | 3 |
| ENG 121 English Composition I | 3 |
| <i>Subtotal</i> | <i>16</i> |

SEMESTER II

| Course Code | Credits |
|--------------------------------|-----------|
| ACC 102 Managerial Accounting | 4 |
| BUS 201 Business Law I | 3 |
| ENG 122 English Composition II | 3 |
| MKT 201 Marketing I | 3 |
| Social Science Elective | 3 |
| <i>Subtotal</i> | <i>16</i> |

SEMESTER III

| Course Code | Credits |
|--|--------------|
| DIS 101 Concepts of Materials Management, Transportation, & Distribution | 3 |
| DIS 201 Customer Servicing | 3 |
| ECO 201 Principles of Economics I | 3 |
| MGT 205 Principles of Labor Relations | 3 |
| Physical/Health Education | 1-3 |
| Social Science Elective | 3 |
| or | 3 |
| Humanities Elective | 3 |
| <i>Subtotal</i> | <i>16-18</i> |

SEMESTER IV

| Course Code | Credits |
|------------------------------------|--------------|
| DIS 202 Transportation | 3 |
| DIS 204 Warehousing and Inventory | 3 |
| MKT 209 Marketing Field Experience | 3 |
| or | 3 |
| Recommended Business Elective** | 3 |
| Science Requirement*** | 3 |
| Humanities Elective | 3 |
| <i>Subtotal</i> | <i>15</i> |
| TOTAL CREDITS | 63-65 |

*BUS 115, Mathematics of Finance is recommended. Students with the appropriate academic prerequisites, in consultation with their Academic Advisor, should enroll in an appropriate Mathematics course.

**Elective must be selected after consultation with an Academic Advisor to insure that a solid foundation is developed in a potential area of application of Transportation Distribution Concepts.

***Students may elect courses offered by the Biology, Chemistry, or Physics Department for which they have the appropriate academic preparation.

TRANSPORTATION AND DISTRIBUTION

Certificate Program

| Course Code | Credits |
|--|-----------|
| BUS 101 Business Organization and Management | 3 |
| BUS 107 Introduction to Business Data Processing | 3 |
| MKT 201 Marketing I | 3 |
| DIS 101 Concepts of Materials Management, Transportation, & Distribution | 3 |
| DIS 201 Customer Servicing | 3 |
| DIS 202 Transportation | 3 |
| DIS 204 Warehousing and Inventory | 3 |
| ENG 121 English Composition I | 3 |
| ENG 122 English Composition II | 3 |
| BUS 205 Business Communications | 3 |
| TOTAL CREDITS | 30 |

MARKETING ART AND DESIGN

Associate in Applied Science Degree

This unique career-directed program combines commercial photography and commercial art with business and general education. The emphasis is on hands-on experience in the laboratory or studio to develop both the creative ability and the mechanical skills essential to business-oriented art and photography careers. After establishing a basic knowledge of business, art and photography, the student specializes in one of two options: professional commercial photography, or advertising graphics design. The major courses are taught by faculty with professional experience in the fields of commercial art and photography as well as in



marketing and business.

A growing need for computer graphic artists has brought about the incorporation of hands-on computer graphics instruction in courses using state-of-the-art equipment.

The Marketing Art Design Degree program now includes a cooperative work experience option. Seniors who select this option may be placed in a paid approved position that will enhance their competency by providing hands-on experience with state-of-the-art equipment used by professional designers and photographers. Students spend a semester working part time on a one-to-one basis with a graphic designer or commercial photographer learning the latest techniques used in these fields. Job coordinators visit students at work holding progress review sessions with them and their employers. Students also attend a weekly co-op seminar on campus. The Field Experience Option is not a required course for graduation.

The Marketing Art and Design program develops skilled and creative specialists in graphic design and commercial photography who are qualified for employment upon graduation. Graduates find jobs as commercial artists or photographers in advertising agencies, company advertising departments, publishing companies, photography studios, color reproduction laboratories, printing firms, or retail establishments. Some become self-employed professionals.

The program is made up of structured courses in the major that must be completed before students can move on to advanced courses in the next semester. Some of the major courses such as Color & Design I & II are offered only once each year. Color & Design I is offered only in the fall semester and Color & Design II is offered only in the spring. As a result, students must take each course in the semester that it is offered or they will not be able to move on to advanced senior courses such as Advertising Design I & II or Portrait Photography.

Advertising Graphics Design Option

Sample Two-Year Plan of Study

SEMESTER I

| <i>Course Code</i> | <i>Credits</i> |
|--|----------------|
| BUS 107 Introduction to Business Data Processing | 3 |
| ENG 121 English Composition I | 3 |
| MAD107 Photography I | 3 |
| MAD111 Color and Design I | 3 |
| MAD117 Freehand Drawing | 3 |
| Physical/Health Education | 1-3 |
| <i>Subtotal</i> | 16-18 |

SEMESTER II

| <i>Course Code</i> | <i>Credits</i> |
|--------------------------------------|----------------|
| ART 103 Art in Industry and Commerce | 2 |

| | |
|--|----|
| BUS 101 Business Organization and Management | 3 |
| ENG 122 English Composition II | 3 |
| MAD105 Mechanical Art | 3 |
| MAD108 Photography II | 3 |
| MAD112 Color and Design II | 3 |
| <i>Subtotal</i> | 17 |

SEMESTER III

| <i>Course Code</i> | <i>Credits</i> |
|--|----------------|
| AGD 203 Layout Design and Typography I | 2 |
| AGD 211 Advertising Design I | 2 |
| AGD 215 Advertising Production I | 2 |
| MKT 201 Marketing I | 3 |
| or | |
| MKT 203 Principles of Advertising | 3 |
| Social Science Elective | 3 |
| Mathematics Requirement* | 3 |
| <i>Subtotal</i> | 15 |

SEMESTER IV

| <i>Course Code</i> | <i>Credits</i> |
|---|----------------|
| AGD 204 Layout Design and Typography II | 2 |
| AGD 209 Portfolio Project | 2 |
| AGD 212 Advertising Design II | 2 |
| AGD 216 Advertising Production II | 2 |
| Social Science Elective | 3 |
| Humanities Elective | 3 |
| Science Elective** | 3 |
| <i>Subtotal</i> | 17 |
| TOTAL CREDITS | 65-67 |

Professional Commercial Photography Option

Sample Two-Year Plan of Study

SEMESTER I

| <i>Course Code</i> | <i>Credits</i> |
|--|----------------|
| BUS 107 Introduction to Business Data Processing | 3 |
| ENG 121 English Composition I | 3 |
| MAD107 Photography I | 3 |
| MAD111 Color and Design I | 3 |
| MAD117 Freehand Drawing | 3 |
| Physical/Health Education | 1-3 |
| <i>Subtotal</i> | 16-18 |

SEMESTER II

| <i>Course Code</i> | <i>Credits</i> |
|--|----------------|
| ART 103 Art in Industry and Commerce | 2 |
| BUS 101 Business Organization and Management | 3 |
| ENG 122 English Composition II | 3 |
| MAD105 Mechanical Art | 3 |
| MAD108 Photography II | 3 |
| MAD112 Color and Design II | 3 |
| <i>Subtotal</i> | 17 |

SEMESTER III

| <i>Course Code</i> | <i>Credits</i> |
|----------------------|----------------|
| MKT 143 Salesmanship | 3 |
| or | |
| MKT 201 Marketing I | 3 |

| | | |
|---------|--|----|
| PCP 216 | Product Illustration & Photomechanical Reproduction | 4 |
| PCP 218 | Color Printing Techniques | 2 |
| | Social Science Elective | 3 |
| | Mathematics Requirement* | 3 |
| | <i>Subtotal</i> | 15 |

SEMESTER IV

| | | |
|----------------------|-------------------------|----------------|
| <i>Course Code</i> | | <i>Credits</i> |
| PCP 213 | Portfolio Project | 2 |
| PCP 217 | Portrait Photography | 2 |
| PCP 220 | Multi-Media Production | 4 |
| | Humanities Elective | 3 |
| | Social Science Elective | 3 |
| | Science Elective** | 3 |
| | <i>Subtotal</i> | 17 |
| TOTAL CREDITS | | 65-67 |

*MAT 101, Freshman Mathematics I recommended. Students with the appropriate academic prerequisites, in consultation with their Academic Advisor, should enroll in an appropriate Mathematics course appropriate for general education

**Students may elect courses offered by the Biology, Chemistry, or Physics Department for which they have the appropriate academic preparation.

NOTE: Marketing Art & Design Field Experience electives (AGD 222 or PCP 222) are not required courses for graduation nor can the 3 credits be applied toward the A.A.S. degree. These courses are offered only in the evenings.

OFFICE SYSTEMS TECHNOLOGY

(Office Administration)

Associate in Applied Science Degree

The Office Systems Technology (Office Administration) curriculum is designed for persons wishing to become an integral part of the professional office team. The program provides students with a background in business and general education, enhanced by the development of high-level technological and organizational skills.

Technology continues to change the office environment, and office personnel at all levels must keep pace to retain a professional edge. Office personnel play a strategic role in helping the organization run smoothly; therefore, the courses in the curriculum emphasize the development of skills in decision making, time management, teamwork, and setting priorities as well as the ability to use word processing, spreadsheet, database, graphics, desktop publishing, and communications software.

Through cooperative work experiences, students apply skills and classroom theory to on-the-job situations.

Job opportunities are available for part-time positions while attending school and full-time positions upon graduation.

Students who have completed two years of shorthand and/or typewriting in high school with above average grades may waive the first level of courses. They are encouraged to take Credit-by-Examination for advanced placement. Credit-by-Examination is given several times a year. Students who have been admitted should apply to the Director of Testing, Johnson Learning Center, Room 229, (908) 906-2508, for more information. College credit is given for successful completion of the examination/s.

Seniors and graduates are eligible to take the Certified Professional Secretary Examination (CPS) given by Professional Secretaries International. Individuals who have received the CPS rating may apply for advanced standing in the curriculum.

There is also a 31 credit OST Certificate of Achievement program for students interested in a shorter course of study.

Sample Two-Year Plan of Study

SEMESTER I

| | | |
|--------------------|---|----------------|
| <i>Course Code</i> | | <i>Credits</i> |
| BUS 101 | Business Organization and Management | 3 |
| BUS 107 | Introduction to Business Data Processing**** | 3 |
| ENG 121 | English Composition I | 3 |
| OST 101 | Typewriting I** | 2 |
| PED | Physical/Health Education | 1-3 |
| | Mathematics Elective* | 3 |
| | <i>Subtotal</i> | 15-17 |

SEMESTER II

| | | |
|--------------------|--|----------------|
| <i>Course Code</i> | | <i>Credits</i> |
| ACC 101 | Financial Accounting | 4 |
| ENG 122 | English Composition II | 3 |
| OST 102 | Typewriting II | 2 |
| OST 107 | Transcription for Business | 3 |
| OST 122 | Word/Information Processing I Humanities Elective | 3 |
| | <i>Subtotal</i> | 18 |

SEMESTER III

| | | |
|--------------------|---|----------------|
| <i>Course Code</i> | | <i>Credits</i> |
| OST 103 | Shorthand I | 4 |
| | or | |
| OST 207 | Advanced Transcription for Business | 3 |
| OST 210 | Records Management | 3 |
| OST 211 | Contemporary Office Procedures | 3 |
| OST 222 | Word/Information Processing II Science Elective*** | 3 |
| | General Education Elective | 3 |
| | <i>Subtotal</i> | 18-19 |

SEMESTER IV

| | | |
|--------------------|---|----------------|
| <i>Course Code</i> | | <i>Credits</i> |
| OST 104 | Shorthand II | 3 |
| | or | |
| OST 223 | Integrated Software Applications | 3 |
| OST 208 | Office Systems Cooperative Work Experience | 3 |



| | | |
|---------|----------------------------------|-------|
| OST 213 | Administrative Office Management | 3 |
| | General Education Elective | 3 |
| | Social Science Elective | 3 |
| | <i>Subtotal</i> | 15 |
| | TOTAL CREDITS | 65-68 |

Total credits needed for graduation is 65.

*BUS 115, Mathematics of Finance is recommended. Students, with the appropriate academic prerequisites, in consultation with their Academic Advisor, should enroll in an appropriate Mathematics course.

**Courses may be waived, or students may take an advanced course, if two years of study have been completed in high school with above average grades. If courses are waived, business electives must be substituted.

***Students may elect courses offered by the Biology, Chemistry, or Physics Department for which they have an appropriate academic background.

****Students are required to enroll in OST 101 at the same time they enroll in BUS 107, Introduction to Business Data Processing or must obtain an approved waiver demonstrating proficiency in keyboarding prior to enrolling in BUS 107, Introduction to Business Data Processing.

Credit-by-exam is available. For additional information contact the Testing Center, 906-2508.

OFFICE SYSTEMS TECHNOLOGY

Certificate Program

| <i>Course Code</i> | <i>Credits</i> |
|--|----------------|
| BUS 107 Introduction to Business Data Processing*** | 3 |
| BUS 205 Business Communications | 3 |
| ENG 121 English Composition I | 3 |
| Mathematics Elective* | 3 |
| OST 101 Typewriting I** | 2 |
| OST 102 Typewriting II | 2 |
| OST 107 Transcription for Business | 3 |
| OST 122 Word/Information Processing I | 3 |
| OST 211 Contemporary Office Procedures | 3 |
| OST 222 Word/Information Processing II | 3 |
| General Education Elective | 3 |
| TOTAL CREDITS | 31 |

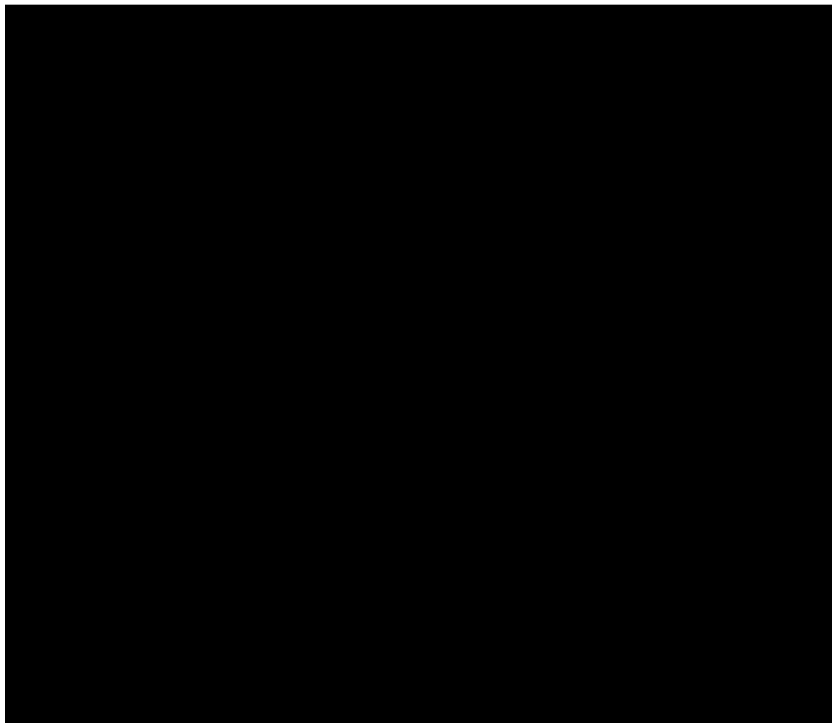
*BUS 115, Mathematics of Finance is recommended. Students with the appropriate academic prerequisites, in consultation with their Academic Advisor, should enroll in an appropriate Mathematics course.

**OST 101, Typewriting I may be waived, or the student may take an advanced course if two years of study have been completed in high school with above average grades. If courses are waived, business electives must be substituted.

***Students are required to enroll in OST 101 at the same time they enroll in BUS 107, Introduction to Business Data Processing, or must obtain an approved waiver demonstrating proficiency in keyboarding prior to enrolling in BUS 107, Introduction to Business Data Processing.

Credit-by-exam is available. For additional information contact the Testing Center, 906-2508.

DIVISION OF ENGINEERING AND SCIENCE TECHNOLOGIES



The Division of Engineering Technologies and Science, through the Departments of Computer Science, Physics/Electrical Engineering Technology, Mechanical and Civil/Construction Engineering Technology, Biology, Chemistry, and Mathematics administers both transfer-oriented and career-oriented programs.

University-parallel programs are offered to those students interested in pursuing long-range educational goals in engineering, computer science, biology, chemistry, mathematics, physics, pre-medicine, pre-chiropractic, pre-dentistry, pre-pharmacy, physical therapy, public health, and environmental science.

Career-oriented programs are offered to those students seeking gainful employment immediately after graduation in the engineering, industrial, computer-related, biological laboratory, chemical, and environmental technologies. In addition, the Engineering Technologies and Science Division offers quality mathematics and science courses to those students in programs offered through other divisions. These include college preparatory courses and courses required to meet degree requirements.

FRANK A. SPANO, Professor and Dean

PROGRAM FACULTY

Computer Science Department

Chairperson: Paul Bhatia, *Associate Professor*

Associate Professors: Francis Burke and Marion Sackrowitz

Assistant Professors: Nicholas Piciocco and Beverly Simon

Instructor: Jane Liefert

Mechanical and Civil/Construction Engineering Technology Department

Chairperson: Frank J. Rubino, *Professor*

Associate Professors: Jay Edelson, Raymond J. Nolan, John O. Pautz and Edward Schwarzkopf

Assistant Professors: Carl Kieseewetter and David C. Pearce

Physics/Electrical Engineering Technology Department

Chairperson: Jack L. Waintraub, *Professor*

Professors: Thomas M. Handler, Frederick Montana and David H. Tyrrell

Associate Professors: David B. Beyer, William DeBuvitz, Steven Foster, Brendan Gallagher, Ronald B. Krauth, Joseph B. Kubéck and Josephine Lamela

Biology Department

Chairperson: Trace Gerow, *Associate Professor*

Associate Professors: Jeffrey Hochbaum, William Kleinelp, Doris Mayner, Doris Morgan, Charles Oxman and Margaret Przygoda

Assistant Professors: Robert W. Colburn Jr. and Roger Furbie

Instructors: Janet Hartman Baker, Barbara Bogner and Lucia Tillotson

Chemistry Department

Chairperson: Barbara J. Drescher, *Professor*

Professors: Harold M. Gladstone, Dominic J. Macchia, John J. Murray, Alan Sherman and Robert G. Smith

Associate Professors: Leonard J. Russikoff and Diane Trainor

Assistant Professors: Linda Christopher and Dorothea M. Doyle

Mathematics Department

Chairperson: Reginald K. Luke, *Professor*

Professors: Simon I. Aloff, Maria De Lucia Betkowski, George Popel and Robert R. Urbanski

Associate Professors: Arnold Cohen and Kathleen B. Shay

Assistant Professors: Agnes Azzolino,

Jacqueline DeMazio, Michelle Greenfield, Lucy Gullo, Jeannette O'Rourke, Ronald E. Ruemmler, Susan Shulman, Clarence Taylor and Selina Thompson

Students may be required to take developmental coursework as a result of their performance on the NJ College Basic Skills Placement Test. In those cases, students may take additional semesters or summer semester to complete all program requirements for graduation (refer to page 26 for additional information).

AUTOMOTIVE TECHNOLOGY

Student Service Educational Program (ASSET)

Associate in Applied Science Degree

ASSET is an innovative program offered in cooperation with the Ford Motor Company and Middlesex County Vocational and Technical Schools, which combines classroom and laboratory experience with paid on-the-job training. ASSET is designed as an intensive full-time, two-year college curriculum with 60 weeks spent in college classes and 45 weeks spent working in sponsoring Ford/Mercury dealerships. Students rotate in 15-week cycles between the campus and the dealership. This alternating semester program takes approximately 2 1/3 years to complete.

Sample 2 1/3 Year Plan of Study

SEMESTER I

| Course Code | Credits |
|---------------------------------------|--------------|
| AUT 111 Minor Automotive Services | 3 |
| AUT 115 Automotive Brake Systems | 2 |
| AUT 117 Automotive Electrical Systems | 3 |
| ENG 121 English Composition I | 3 |
| MAT 107 Mathematics I | 3 |
| Physical/Health Education | 1-3 |
| Subtotal | 15-17 |

SEMESTER II

| Course Code | Credits |
|--|---------|
| AUT 108 Automotive Technology Work Experience I (15 weeks co-op) | 3 |

SEMESTER III

| Course Code | Credits |
|--|-----------|
| AUT 122 Analysis and Tune Up | 3 |
| AUT 124 Automotive HVAC Systems | 3 |
| AUT 126 Alignment, Suspension & Steering Systems | 2 |
| CSC 117 Introduction to Technical Programming | 2 |
| ENG 122 English Composition II | 3 |
| MAT 108 Mathematics II | 3 |
| Subtotal | 15 |

SEMESTER IV

| Course Code | Credits |
|---|---------|
| AUT 208 Automotive Technology Work Experience II (15 weeks co-op) | 3 |

SEMESTER V

| Course Code | Credits |
|---|---------|
| AUT 211 Standard Transmission & Drive Train | 3 |
| AUT 213 Automatic Transmission I | 3 |

| | |
|---------------------------------------|-----------|
| AUT 216 Fuel and Emission Systems | 3 |
| AUT 217 Engine Diagnostics & Repair I | 3 |
| Humanities Elective | 3 |
| Subtotal | 15 |

SEMESTER VI

| Course Code | Credits |
|--|---------|
| AUT 218 Automotive Technology Work Experience III (15 weeks co-op) | 3 |

SEMESTER VII

| Course Code | Credits |
|--|-----------|
| AUT 226 Automatic Transmission II | 2 |
| AUT 228 Engine Diagnostics & Repair II | 3 |
| AUT 229 Automotive Electricity & Electronics | 3 |
| PHY 101 Principles of Physics I | 4 |
| Social Science Elective | 3 |
| Subtotal | 15 |

TOTAL CREDITS 70

BIOLOGICAL LABORATORY TECHNOLOGY

Associate in Applied Science Degree

This job-oriented program leads to career opportunities in pharmaceutical firms and biological technological industries. Students acquire knowledge and develop practical skills in anatomy, chemistry, histology, physiology, microbiology, modern biological techniques, and laboratory instrumentation. This program emphasizes preparation for careers.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|-------------------------------|--------------|
| BIO 117 Biology I*+ | 4 |
| CHM117 Chemistry I* ** | 4 |
| ENG 121 English Composition I | 3 |
| MAT 107 Mathematics I++ | 3 |
| Physical/Health Education | 1-3 |
| Subtotal | 15-17 |

SEMESTER II

| Course Code | Credits |
|---------------------------------|-----------|
| BIO 118 Biology II*+ | 4 |
| CHM118 Chemistry II* ** | 4 |
| ENG 122 English Composition II | 3 |
| MAT 108 Mathematics II++ | 3 |
| PHY 101 Principles of Physics I | 4 |
| Subtotal | 18 |

SEMESTER III

| Course Code | Credits |
|---|-----------|
| BIO 221 Microbiology* | 4 |
| CHM201 Principles of Organic Chemistry* | 4 |
| BIO 203 Biological Laboratory Techniques* | 3 |
| Social Science Elective | |
| or | |
| Humanities Elective | 3 |
| Subtotal | 14 |

SEMESTER IV

| Course Code | Credits |
|-------------|---------|
| | |

| | | | | | |
|---------|--|-------|--------------------|---|----|
| BIO 214 | Vertebrate Physiology* | 4 | CHM 219 | Modern Methods of Analysis I | 5 |
| BIO 224 | Applied Microbiology* | 4 | CSC 105 | Computer Applications & Systems+++ | 3 |
| CHM 202 | Biochemistry | | | Social Science/Humanities Elective | 3 |
| | or | 3-4 | | <i>Subtotal</i> | 15 |
| BIO 226 | Biological Technology Cooperative Education | | SEMESTER IV | | |
| SCI 208 | Laboratory Instrumentation* | 3 | <i>Course Code</i> | <i>Credits</i> | |
| | Social Science Elective | | CHM 220 | Modern Methods of Analysis II | 5 |
| | or | 3 | ENV 221 | Hazardous Waste Management Humanities Elective | 3 |
| | Humanities Elective | | | Technical Elective Choices: (select one) | |
| | <i>Subtotal</i> | 17-18 | CHM 202 | Biochemistry | 4 |
| | TOTAL CREDITS | 64-67 | CHM 226 | Chemistry Technology Co-op Education | 3 |
| | | | ENV 222 | Water & Wastewater Analysis | 3 |

A basic computer course is recommended at some time during the four semesters. Computer applications are utilized in many laboratory courses.

*Major course

+BIO 123-124 may be substituted for BIO 117-118 for students who have completed a high school biology lab course or BIO 010 and algebra I, with the department chairperson's approval.

**CHM 123-124 may be substituted for CHM 117-118 for students who have completed a high school chemistry lab course and algebra I & II, with department chairperson's approval.

++MAT 123-124 or MAT 129-131 may be substituted for MAT 107-108 for students with appropriate academic background, with department chairperson's approval.

Subtotal 14-15
TOTAL CREDITS 62-65

+BIO 123-124 may be substituted for BIO 117-118 for students who have completed a high school biology lab course, with the department chairperson's approval.

**CHM 123-124 may be substituted for CHM 117-118 for students who have completed a high school chemistry lab course, with department chairperson's approval.

++MAT 123-124 or MAT 129-131 may be substituted for MAT 107-108 for students who have completed two or more years of high school algebra, with department chairperson's approval.

***CHM 223, Organic Chemistry I, may be taken with department chairperson's approval.

+++CSC 109 or CSC 115 or CSC 121 or CSC 105

CHEMICAL TECHNOLOGY

Associate in Applied Science Degree

The Chemical Technology program develops the students' knowledge and practical skills in chemistry, chemical analysis and laboratory instrumentation. Career opportunities in this job-oriented curriculum exist as research assistants, laboratory technicians, control analysts, production supervisors and quality control analysts. With experience, positions are possible in such areas as sales, production, and consumer service. This program emphasizes preparation for careers.

Sample Two-Year Plan of Study

| | | |
|--------------------|---------------------------|----------------|
| SEMESTER I | | |
| <i>Course Code</i> | | <i>Credits</i> |
| BIO 117 | Biology I+ | 4 |
| CHM 117 | Chemistry I** | 4 |
| ENG 121 | English Composition I | 3 |
| MAT 107 | Mathematics I++ | 3 |
| | Physical/Health Education | 1-3 |
| | <i>Subtotal</i> | 15-17 |

SEMESTER II

| | | |
|--------------------|------------------------|----------------|
| <i>Course Code</i> | | <i>Credits</i> |
| BIO 118 | Biology II+ | 4 |
| CHM 118 | Chemistry II** | 4 |
| ENG 122 | English Composition II | 3 |
| MAT 108 | Mathematics II++ | 3 |
| PHY 101 | Principles of Physics | 4 |
| | <i>Subtotal</i> | 18 |

SEMESTER III

| | | |
|--------------------|------------------------------------|----------------|
| <i>Course Code</i> | | <i>Credits</i> |
| CHM 201 | Principles of Organic Chemistry*** | 4 |

CHEMICAL TECHNOLOGY

Certificate Program

This program is offered exclusively in the evening through the Division of Continuing Education and Instructional Resources.

Required Courses

| | | |
|--------------------|----------------------------------|----------------|
| <i>Course Code</i> | | <i>Credits</i> |
| CHM 117 | Chemistry I* | 4 |
| CHM 118 | Chemistry II* | 4 |
| CHM 201 | Principles of Organic Chemistry* | 4 |
| CHM 219 | Modern Methods of Analysis I* | 5 |
| | Computer Science Elective* | 3 |
| ENG 121 | English Composition I | 3 |
| ENG 122 | English Composition II | 3 |
| MAT 107 | Mathematics I | 3 |
| MAT 108 | Mathematics II | 3 |
| | TOTAL CREDITS | 32 |

*Major course

CIVIL/CONSTRUCTION ENGINEERING TECHNOLOGY

Associate in Applied Science Degree

Employment opportunities for graduates of this program include occupations such as construction inspector, construction supervisor, materials tester, architectural or structural drafter, surveyor, estimator, shop-drawing



detailer, site plan designer, CAO operator, specification writer, and technical sales representative. The emphasis on the practical provides the civil engineering technician with skills that can be utilized immediately on the job. The program blends fundamental courses that provide a foundation in communications, calculations, and engineering principles with Civil/Construction Engineering Technology courses. Each of these courses has been developed with a balance between theory and practice. This program is accredited by TAC/ABET Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

This program emphasizes preparation for careers. Graduates who plan to transfer to upper division colleges are subject to the transfer policy of the receiving colleges which may or may not accept all or part of the credit earned.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|---|---------|
| CSC 117 Introduction to Technical Programming | 2 |
| CIT 107 Construction Materials and Estimates* | 2 |
| ENG 121 English Composition I | 3 |
| MAT 109 College Algebra and Trigonometry I+ | 3 |
| MEC 123 Technical Graphics/CAD I | 3 |
| Social Science Elective | 3 |
| <i>Subtotal</i> | 16 |

SEMESTER II

| Course Code | Credits |
|---|---------|
| CIT 105 Statics and Strength of Materials* | 4 |
| CIT 106 Civil Engineering Drawing* | 2 |
| CIT 116 CAD Applications in Civil Engineering Technology* | 2 |
| ENG 122 English Composition II | 3 |
| MAT 110 College Algebra & Trigonometry II+ | 2 |
| PHY 115 College Physics I | 4 |
| <i>Subtotal</i> | 17 |

SEMESTER III

| Course Code | Credits |
|--|----------|
| CIT 104 Surveying I* | 3 |
| CIT 203 Strength of Materials II* | 4 |
| CIT 213 Construction Materials Testing* | 2 |
| MAT 112 Introduction to Unified Calculus I+ Physical/Health Education | 3 1-3 |
| PHY 116 College Physics II | 4 |
| <i>Subtotal</i> | 17-19 |

SEMESTER IV

| Course Code | Credits |
|---|---------|
| CIT 205 Surveying II* | 3 |
| CIT 210 Soil Mechanics* | 2 |
| CIT 212 Hydraulics* | 4 |
| CIT 214 Current Topics in Civil/Construction Engineering Technology* | 1 |
| CIT 216 Structural Design* Humanities Elective | 4 3 |
| <i>Subtotal</i> | 17 |
| TOTAL CREDITS | 67-69 |

*Major course

+Students may use MAT 129 & MAT 131 or MAT 131 & MAT 132 in place of MAT 109, MAT 110, & MAT 112.

Surveying Technology Option Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|---|---------|
| LET 101 Introduction to Legal Research & Writing* | 4 |
| CSC 117 Introduction to Technical Programming | 2 |
| ENG 121 English Composition I | 3 |
| MAT 109 College Algebra and Trigonometry I+ | 3 |
| MEC 123 Technical Graphics/CAD I | 3 |
| Social Science Elective | 3 |
| <i>Subtotal</i> | 18 |

SEMESTER II

| Course Code | Credits |
|--|---------|
| CIT 105 Statics & Strength of Materials | 4 |
| CIT 106 Civil Engineering Drawing* | 2 |
| CIT 116 CAD Applications in Civil Engineering Technology* | 2 |
| ENG 122 English Composition II | 3 |
| MAT 110 College Algebra & Trigonometry II+ | 2 |
| PHY 115 College Physics I | 4 |
| <i>Subtotal</i> | 17 |

SEMESTER III

| Course Code | Credits |
|--|---------|
| CIT 104 Surveying I* | 3 |
| MAT 112 Introduction to Unified Calculus I+ | 3 |
| PHY 116 College Physics II | 4 |
| LET 104 Property Transactions Humanities Elective | 3 3 |
| Physical/Health Education | 1-3 |
| <i>Subtotal</i> | 17-19 |

SEMESTER IV

| Course Code | Credits |
|--|---------|
| CIT 205 Surveying II* | 3 |
| CIT 212 Hydraulics* | 4 |
| CIT 151 Urban & Suburban Development* | 3 |
| CIT 210 Soil Mechanics* | 2 |
| LST 250 Boundary Law I* Social Science Elective | 3 3 |
| <i>Subtotal</i> | 18 |
| TOTAL CREDITS | 67-69 |

*Major course

+Students may use MAT 129 & MAT 131 or MAT 131 & 132 in place of MAT 109, MAT 110, & MAT 112.

SURVEYING TECHNOLOGY

Certificate Program

Required Courses

| Course Code | Credits |
|---|---------|
| CIT 104 Surveying I* | 3 |
| CIT 106 Civil Engineering Drawing* | 2 |
| CIT 116 CAD Applications in Civil Engineering Technology | 2 |

| | | |
|----------------------|--|------------|
| CIT 151 | Urban and Suburban Development* | 3 |
| CIT 205 | Surveying II* | 3 |
| CSC 117 | Introduction to Technical Programming* | 2 |
| ENG 121 | English Composition I | 3 |
| ENG 122 | English Composition II | 3 |
| LET 101 | Introduction to Legal Research & Writing | 3 |
| MAT T09 | College Algebra & Trigonometry I | 3 |
| MAT 110 | College Algebra & Trigonometry II | 2 |
| MEC 123 | Technical Graphics/CAD I* | 3 |
| TOTAL CREDITS | | —32 |

other titles in the Computer Science (Information Systems area).

The Computer Science (Information Systems) program is unique in that it combines the study of Computer Science and Information Processing with the study of a specialized area of interest to students. Through their elective courses, students are encouraged to explore information processing needs of job related fields such as Business, Engineering, Science, Health, and Government. The emphasis is on developing problem-solving and communication skills by using modern information processing techniques.

A significant portion of student time is spent in the laboratory with hands-on experience in software technology.

This program emphasizes preparation for careers. Graduates who plan to transfer to upper division colleges are subject to the transfer policy of the receiving colleges which may or may not accept all or part of the credits earned. They should investigate the science transfer-computer science option.

Sample Two-Year Plan of Study

| SEMESTER I | | |
|-----------------|---|---------------|
| Course Code | Credits | |
| CSC 105 | Computer Applications & Systems* | 3 |
| CSC 121 | Introduction to Computer Science* | 4 |
| ENG 121 | English Composition I | 3 |
| MAT 125 | Mathematics for Decision Science I+ Social Science Elective Physical/Health Education | 3 3 1-3 |
| <i>Subtotal</i> | | 17-19 |

| SEMESTER II | | |
|-----------------|---|----|
| Course Code | Credits | |
| CSC 122 | Data Structures* | 4 |
| CSC 152 | Introduction to COBOL* | 4 |
| CSC 203 | Large System Organization & Programming* | 4 |
| ENG 122 | English Composition II | 3 |
| MAT 126 | Mathematics for Decision Science II+ | 3 |
| <i>Subtotal</i> | | 18 |

| SEMESTER III | | |
|-----------------|---|----|
| Course Code | Credits | |
| CSC 225 | Systems Analysis* | 3 |
| CSC 227 | CICS-Advanced COBOL* | 4 |
| CSC 243 | Advanced Programming in C* | 3 |
| CSC 245 | UNIX** and Shell Programming* | 4 |
| CSC 205 | DP Work Experience I or | 3 |
| CSC 247 | Introduction to Data Communications and Networking | 3 |
| <i>Subtotal</i> | | 17 |

| SEMESTER IV | | |
|-------------|--------------------------------|---|
| Course Code | Credits | |
| CSC 210 | Operating Systems* | 3 |
| CSC 239 | Data Base Systems Concepts* | 3 |
| CSC 246 | UNIX** Systems Administration* | 3 |

CIVIL/CONSTRUCTION ENGINEERING TECHNOLOGY

Certificate Program

Required Courses

| Course Code | Credits | |
|----------------------|--|--------------|
| CIT 104 | Surveying I* | 3 |
| CIT 105 | Statics and Strength of Materials* | 4 |
| CIT 106 | Civil Engineering Drawing* | 2 |
| CIT 107 | Construction Materials and Estimates* | 2 |
| CIT 213 | Construction Materials Testing* | 2 |
| CSC 117 | Introduction to Technical Programming* | 2 |
| ENG 121 | English Composition I | 3 |
| ENG 122 | English Composition II | 3 |
| MAT 109 | College Algebra and Trigonometry I | 3 |
| MAT 110 | College Algebra & Trigonometry II | 2 |
| MEC 123 | Technical Graphics/CAD I* | 3 |
| Select Two: | | |
| CIT 116 | CAD Applications in Civil Technology* | 2 |
| CIT 203 | Strength of Materials II* | 4 |
| CIT 205 | Surveying II* | 3 |
| CIT 210 | Soil Mechanics* | 2 |
| CIT 212 | Hydraulics* | 4 |
| CIT 216 | Structural Design* | 4 |
| TOTAL CREDITS | | 33-37 |

*Major course

COMPUTER SCIENCE (INFORMATION SYSTEMS)

Associate in Applied Science Degree

Computer Science (Information Systems) is an ever-expanding career field. Electronic computers, widely used by government and industry, require highly detailed instructions by trained information processing programmers. As the number of computer installations increase, new jobs are available to meet the growing demands for information processing. The programmer is employed by large and small organizations such as insurance companies, banks, wholesale and retail establishments, manufacturing firms, government agencies, and software developers. Graduates of this program can be employed as a programmer in business and industry, a junior programmer analyst, engineering assistant, technical associate/small system administrator, as well as many



| | | |
|----------------------|--|--------------|
| | Humanities Elective | 3 |
| CSC 205 | DP Work Experience**# or | 3 |
| CSC 206 | DP Work Experience II* or | |
| CSC 240 | Student Design Project*# or | |
| CSC 247 | Introduction to Data Communications and Networking* | |
| | <i>Subtotal</i> | 15 |
| TOTAL CREDITS | | 67-69 |

*Major course

**UNIX is a trademark of Bell Laboratories.

+Higher level math may be substituted.

#Requires prior completion of CSC 247

COMPUTER PROGRAMMING

Certificate Program

Required Courses

| Course Code | | Credits |
|----------------------|---|-----------|
| CSC 105 | Computer Applications & Systems* | 3 |
| CSC 121 | Introduction to Computer Science* | 4 |
| CSC 122 | Data Structures* | 4 |
| CSC 152 | Introduction to COBOL* | 4 |
| CSC 203 | Large System Organization & Programming* | 4 |
| CSC 227 | CICS-Advanced COBOL* | 4 |
| ENG 121 | English Composition I | 3 |
| ENG 122 | English Composition II | 3 |
| MAT 125 | Mathematics for Decision Science I+ | 3 |
| MAT 126 | Mathematics for Decision Science II+ | 3 |
| TOTAL CREDITS | | 35 |

*Major course

+Higher level math may be substituted.

ELECTRICAL ENGINEERING TECHNOLOGY

Associate in Applied Science Degree

An electrical engineering technician may work as an engineering associate-designing, refining, and building electronic equipment. Graduates may find a career as a maintenance technician, troubleshooting and repairing electronic equipment, or as a field engineer, servicing and selling electronics equipment.

The program emphasizes the development of skills and the understanding of the theory of electronics. Skills in design, analysis, and the manufacture of electronic equipment are developed through courses that combine laboratory and classroom experiences. The laboratories are equipped with modern industrial-grade equipment and provide for a great variety of application of knowledge.

Accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technol-

ogy.

3 This program emphasizes preparation for careers. Graduates who plan to transfer to upper division colleges are subject to the transfer policy of the receiving colleges which may or may not accept all or part of the credits earned.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | | Credits |
|-----------------|---------------------------------------|---------|
| CSC 117 | Introduction to Technical Programming | 2 |
| ELT 101 | Circuits I | 4 |
| ELT 111 | Digital Electronics | 3 |
| ENG 121 | English Composition I | 3 |
| MAT 109 | College Algebra & Trigonometry I | 3 |
| MEC 117 | Electrical Drawing | 1 |
| <i>Subtotal</i> | | 16 |

SEMESTER II

| Course Code | | Credits |
|-----------------|-----------------------------------|---------|
| ELT 102 | Circuits II | 4 |
| ELT 103 | Electronics I | 4 |
| ENG 122 | English Composition II | 3 |
| MAT 110 | College Algebra & Trigonometry II | 2 |
| ELT 223 | Electronic Design & Manufacturing | 2 |
| ELT 226 | Microcomputers | 2 |
| <i>Subtotal</i> | | 17 |

SEMESTER III

| Course Code | | Credits |
|-----------------|----------------------|---------|
| ELT | Technical Elective I | 3 |
| ELT 203 | Electronics II | 4 |
| | Humanities Elective+ | 3 |
| PHY 115 | College Physics I | 4 |
| MAT 112 | Unified Calculus I | 3 |
| <i>Subtotal</i> | | 17 |

SEMESTER IV

| Course Code | | Credits |
|----------------------|---------------------------|--------------|
| PHY 116 | College Physics II | 4 |
| ELT 224 | Communication Electronics | 3 |
| ELT 205 | Electromagnetic Devices | 3 |
| ELT | Technical Elective II | 3 |
| | Social Science Elective+ | 3 |
| | Physical/Health Education | 1-3 |
| <i>Subtotal</i> | | 17-19 |
| TOTAL CREDITS | | 67-69 |

Technical Elective Courses for Electrical Engineering Technology Curriculum:

| Course Code | | Credits |
|-------------|--|---------|
| ELT 208 | Electrical Engineering Tech Work Experience | 3 |
| ELT 233 | Control of Industrial Motors* | 3 |
| ELT 234 | Audio Technology | 3 |
| ELT 236 | Automatic Controls | 3 |
| ELT 237 | Digital Communications* | 3 |
| ELT 238 | Advanced Digital Electronics | 3 |

*Course to be taken as technical electives in fourth semester only.

Students are eligible for a Certificate in Electrical Engineering Technology after successful completion of the first two semesters.

after successful completion of the first two semesters.

Electrical Engineering Technology Computer Electronics Option

Associate in Applied Science Degree

The Computer Electronics Option prepares students for careers in the computer field such as: computer development, manufacturing, servicing, and maintenance.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|---|---------|
| CSC 117 Introduction to Technical Programming | 2 |
| ELT 101 Circuits I | 4 |
| ELT 111 Digital Electronics | 3 |
| ENG 121 English Composition I | 3 |
| MAT 109 College Algebra & Trigonometry I | 3 |
| MEC 117 Electrical Drawing | 1 |
| <i>Subtotal</i> | 16 |

SEMESTER II

| Course Code | Credits |
|---|---------|
| ELT 102 Circuits II | 4 |
| ELT 103 Electronics I | 4 |
| ELT 223 Electronic Design and Manufacturing | 2 |
| ELT 226 Microcomputers | 2 |
| ENG 122 English Composition II | 3 |
| MAT 110 College Algebra & Trigonometry II | 2 |
| <i>Subtotal</i> | 17 |

SEMESTER III

| Course Code | Credits |
|----------------------------|---------|
| CSC 210 Operating Systems* | 3 |
| ELT 203 Electronics II | 4 |
| Humanities Elective+ | 3 |
| PHY 115 College Physics I | 4 |
| MAT 112 Unified Calculus I | 3 |
| <i>Subtotal</i> | 17 |

SEMESTER IV

| Course Code | Credits |
|---|-----------|
| ELC 218 Computer Troubleshooting/Peripherals* | 3 |
| ELC 220 Digital/Data Communications and Networking* | 3 |
| ELC 228 Advanced Microcomputers* | 3 |
| PHY 116 College Physics II | 4 |
| Physical Education/Health | 1 |
| Social Science Elective+ | 3 |
| <i>Subtotal</i> | 17 |
| TOTAL CREDITS | 67 |

*Required courses for the option

+Student must have 3 credits of Social Science and 3 credits of Humanities.

Students are eligible for a Certificate in Electrical Engineering Technology

ELECTRICAL ENGINEERING TECHNOLOGY

Certificate Program

Required Courses

| Course Code | Credits |
|---|--------------|
| CSC 117 Introduction to Technical Programming | 2 |
| ELT 101 Circuits I | 4 |
| ELT 102 Circuits II | 4 |
| ELT 103 Electronics I | 4 |
| ELT 226 Microcomputers | 2 |
| ELT 111 Digital Electronics | 3 |
| ELT 223 Electronic Design & Manufacturing | 2 |
| ENG 121 English Composition I | 3 |
| ENG 122 English Composition II | 3 |
| MAT 109 College Algebra & Trigonometry | 3 |
| MAT 110 College Algebra & Trigonometry II | 2 |
| MEC 117 Electrical Drawing | 1 |
| TOTAL CREDITS | 33 |

ENGINEERING SCIENCE

Associate in Science Degree

Engineers are professionals with competency based on a theoretical level of education in mathematics and the physical and technical sciences. Individuals entering this program should enjoy solving problems and working with equipment, and should do well in mathematics and science. The engineering science program coincides with the first two years of a bachelor of science in engineering degree.

The program is designed to provide full transfer of credits to baccalaureate degree engineering programs. Theoretical and applied science, mathematics, and engineering subjects are emphasized, and the application of mathematics and science to technical operations is introduced. Students have the opportunity to study in small groups in an environment with close faculty contact.

Students graduating from this program with a GPA of 3.0 or higher are guaranteed admission with full junior status to the Rutgers School of Engineering. Joint admission with the New Jersey Institute of Technology is available. Articulation agreements with many other engineering colleges facilitate transfer with full credit.

Sample Two-Year Plan of Study SEMESTER I



| Course Code | Credits |
|---|---------|
| CHM 123 General Chemistry I* | 4 |
| CSC 115 Computer Programming for Engineers* | 3 |
| ENG 121 English Composition I | 3 |
| MAT 131 Analytic Geometry and Calculus I* | 4 |
| MEC 119 Graphic Science | 2 |
| Physical/Health Education | 1-3 |
| <i>Subtotal</i> | 17-19 |

SEMESTER II

| Course Code | Credits |
|--|---------|
| CHM 124 General Chemistry II* | 4 |
| ENG 122 English Composition II | 3 |
| MAT 132 Analytic Geometry and Calculus II* | 4 |
| PHY 131 Analytical Physics I* | 4 |
| Social Science Elective | 3 |
| <i>Subtotal</i> | 18 |

SEMESTER III

| Course Code | Credits |
|---|---------|
| CHM 223 Organic Chemistry I* | 4 |
| or | |
| ELT 221 Electric Circuits I* | 4 |
| MAT 233 Analytic Geometry and Calculus III* | 4 |
| PHY 132 Analytical Physics II* | 4 |
| MEC 221 Engineering Mechanics I* | 3 |
| Humanities Elective | 3 |
| <i>Subtotal</i> | 18 |

SEMESTER IV

| Course Code | Credits |
|-----------------------------------|---------|
| CHM 224 Organic Chemistry II* | 4 |
| or | |
| ELT 222 Electric Circuits II* | 4 |
| or | |
| MEC 222 Engineering Mechanics II* | 3 |
| MAT 234 Differential Equations* | 4 |
| PHY 231 Analytical Physics III* | 4 |
| Social Science elective | 3 |
| Humanities Elective | 3 |
| <i>Subtotal</i> | 17-18 |
| TOTAL CREDITS | 70-71 |

*Major Course

Semester III and IV ENV courses are offered in the evening only.

This program emphasizes preparation for careers. Graduates who plan to transfer to upper division colleges are subject to the transfer policy of the receiving colleges which may or may not accept all or part of the credits earned.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|-------------------------------|---------|
| BIO 117 Biology I+ | 4 |
| CHM 117 Chemistry I** | 4 |
| ENG 121 English Composition I | 3 |
| MAT 107 Mathematics I++ | 3 |
| Physical/Health Education | 1-3 |
| <i>Subtotal</i> | 15-17 |

SEMESTER II

| Course Code | Credits |
|--------------------------------|---------|
| BIO 118 Biology II+ | 4 |
| CHM 118 Chemistry II** | 4 |
| ENG 122 English Composition II | 3 |
| ENV 208 Community Sanitation | 3 |
| MAT 108 Mathematics II++ | 3 |
| <i>Subtotal</i> | 17 |

SEMESTER III

| Course Code | Credits |
|---------------------------------------|---------|
| ENV 205 Atmospheric Pollution Control | 3 |
| ENV 220 Industrial Hygiene | 3 |
| Technical Electives I+++ | 6-7 |
| Social Science Elective | 3 |
| <i>Subtotal</i> | 15-16 |

SEMESTER IV

| Course Code | Credits |
|---------------------------------------|---------|
| ENV 221 Hazardous Waste Management | 3 |
| ENV 222 Water and Wastewater Analysis | 3 |
| Technical Elective II**** | 3 |
| Humanities Elective | 3 |
| PHY 101 Principles of Physics | 4 |
| <i>Subtotal</i> | 16 |
| TOTAL CREDITS | 63-66 |

+BIO 123-124 may be substituted for BIO 117-118 for students who have completed a high school biology lab course, with department chairperson's approval.

**CHM 123-124 may be substituted for CHM 117-118 for students who have completed a high school chemistry lab course, with department chairperson's approval.

++MAT 123-124 or MAT 129-131 may be substituted for MAT 107-108 for students who have completed two or more years of high school algebra, with department chairperson's approval.

+++Technical Electives I—select two courses: Credits
 BIO 211 Principles of Microbiology
 BIO 221 Microbiology 3-4

ENVIRONMENTAL TECHNOLOGY

Associate in Applied Science Degree

The Environmental Technology program leads to scientific careers in pollution control. The job-oriented curriculum provides basic instruction in the physical, biological, and mathematical sciences, as well as in water and wastewater treatment, solid waste disposal, and air pollution control. The graduate of this program is well prepared for employment as a water and wastewater technician or treatment plant operator, water pollution inspector, air pollution inspector, or sanitarian in public health administration.

| | |
|---|---|
| CHM 201 Principles of Organic Chemistry | 4 |
| ENV 201, 203, 204 Advanced Wastewater Operations I; Advanced Water Operations I | 3 |
| BIO 211 Microbiology | 4 |
| CHM 201 Principles of Organic Chemistry | 4 |
| CSC 105 Computer Applications & Systems | 3 |
| ENV 226 Environmental Technology Co-op Ed | 3 |

****Technical Elective II—select one ENV 202, 204 Advanced Wastewater Operations II; Advanced Water Operations II 3

ENVIRONMENTAL TECHNOLOGY

Certificate Program

Required Courses

*Prerequisite: Introduction to Water Wastewater Operations (150 hours) Vocational Technology high school**

| | |
|---|---|
| MAT 107 Mathematics I | 3 |
| CSC 105 Computer Applications & Systems | 3 |
| ENV 208 Community Sanitation | 3 |
| ENG 121 English Composition I | 3 |
| ENG 122 English Composition II | 3 |
| CHM117 College Chemistry I | 4 |
| BIO 211 Principles of Microbiology | 4 |
| ENV 201 Advanced Wastewater Operations I | 3 |
| ENV 202 Advanced Wastewater Operations II | 3 |
| or | |
| ENV 203 Advanced Water Operations I | 3 |
| ENV 204 Advanced Water Operations II | 3 |
| ENG 206 Environmental Technology Lab | 3 |

Optional

| | |
|---|---|
| ENV 226**Environmental Technology Co-op | 3 |
|---|---|

*3 credit equivalents

**ENV 226 This course meets the one year operating experience required for classifications 1 and 2 New Jersey State Operators License upon completion of the certificate program.

SCIENCE TRANSFER

Associate in Science Degree

The Science Transfer programs parallel the first two years of baccalaureate degree programs in any of the natural sciences or science-related fields. Students follow a curriculum which prepares them, upon graduation, to transfer to a four-year college or university to pursue professional careers in biology, chemistry, computer science, mathematics, physics, and in many areas of allied health.

Pre-Professional Programs - Pre-Chiropractic, Pre-Dental, Pre-Medical, Pre-Occupational Therapy, Pre-Pharmacy, and Pre-Veterinarian

The Associate in Science degree is also recommended

for those students who are preparing for careers in such professional areas as medicine, dentistry, pharmacy, physical therapy, public health, and chiropractic. Biology or Chemistry options of the Science Transfer program are recommended. Contact the pre-professional faculty advisor for specific course selection.

The program is designed to provide full transfer of credits to baccalaureate degrees in all of the programs listed above. Concentration in the theoretical and applied sciences, and mathematics in small class, prepares students to meet the challenges of advanced study in professional careers.

Students graduating from this program generally gain admission, with full junior class status, to a multitude of four year colleges. Students planning to transfer should follow the program option requirements in consultation with the appropriate advisor.

Biology Option

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|-------------------------------|--------------|
| BIO 123 General Biology I* | 4 |
| CHM123 General Chemistry I* | 4 |
| ENG 121 English Composition I | 3 |
| MAT 129 Precalculus+ | 4 |
| Physical/Health Education | 1-3 |
| Subtotal | 16-18 |

SEMESTER II

| Course Code | Credits |
|--|-----------|
| BIO 124 General Biology II* | 4 |
| CHM124 General Chemistry II* | 4 |
| ENG 122 English Composition II | 3 |
| MAT 131 Analytical Geometry & Calculus I | 4 |
| Subtotal | 15 |

SEMESTER III

| Course Code | Credits |
|----------------------------------|-----------|
| BIO 221 Microbiology* | 4 |
| PHY 121 General Physics I* ++ | 4 |
| CSC Computer Science Elective*** | 3 |
| Humanities Elective | 3 |
| Social Science Elective | 3 |
| Subtotal | 17 |

SEMESTER IV

| Course Code | Credits |
|-----------------------------------|-----------|
| BIO 224 Applied Microbiology * ** | 4 |
| PHY 122 General Physics II* ++ | 4 |
| General Elective | 3 |
| Humanities Elective | 3 |
| Social Science Elective | 3 |
| Subtotal | 17 |

TOTAL CREDITS 63-67

*Major course



+With two years of high school algebra and trigonometry, take MAT 129 Precalculus, and MAT 131 Analytic Geometry and Calculus I sequence.

**Students may substitute BIO 214, Vertebrate Physiology or another 200 level biology course with approval of department chairperson.

++Students may substitute PHY 131-132 for PHY 121-122.

***CSC 109 or higher level.

+++Students choose two 2-semester sequences from the following: CHM 123,124, BIO 123,124. PHY 121, 122, or PHY 131,132.

****Students having four years of college prep math, may take MAT 132 and 233.

Chemistry Option

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|-------------------------------|--------------|
| BIO 123 General Biology I | 4 |
| CHM 123 General Chemistry I | 4 |
| ENG 121 English Composition I | 3 |
| MAT 129 Precalculus++++ | 4 |
| Physical/Health Education | 1-3 |
| Subtotal | 16-18 |

SEMESTER II

| Course Code | Credits |
|--|-----------|
| BIO 124 General Biology II | 4 |
| CHM 124 General Chemistry II | 4 |
| ENG 122 English Composition II | 3 |
| MAT 131 Analytic Geometry and Calculus I++++ | 4 |
| Subtotal | 15 |

SEMESTER III

| Course Code | Credits |
|------------------------------------|-----------|
| CHM 223 Organic Chemistry I | 4 |
| PHY 121 General Physics I++ | 4 |
| CSC Computer Science Elective+++++ | 3 |
| Humanities Elective | 3 |
| Social Science Elective | 3 |
| Subtotal | 17 |

SEMESTER IV

| Course Code | Credits |
|------------------------------|--------------|
| CHM 224 Organic Chemistry II | 4 |
| PHY 122 General Physics II++ | 4 |
| General Elective | 3 |
| Humanities Elective | 3 |
| Social Science Elective | 3 |
| Subtotal | 17 |
| TOTAL CREDITS | 65-67 |

++++MAT 131-132 recommended

++++CSC 109 or higher

Computer Science Option

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|-------------|---------|
|-------------|---------|

| | |
|---|--------------|
| CSC 121 Introduction to Computer Science* | 4 |
| Science Elective+++ | 4 |
| ENG 121 English Composition I | 3 |
| MAT 129 Precalculus**** | 4 |
| Physical/Health Education | 1-3 |
| Subtotal | 16-18 |

SEMESTER II

| Course Code | Credits |
|--|-----------|
| CSC 122 Data Structures* | 4 |
| Science Elective+++ | 4 |
| ENG 122 English Composition II | 3 |
| MAT 131 Analytic Geometry and Calculus I**** | 4 |
| Subtotal | 15 |

SEMESTER III

| Course Code | Credits |
|--|-----------|
| CSC 233 Computer Architecture & Assembly Language I* | 4 |
| Science Elective+++ | 4 |
| Humanities Elective | 3 |
| Social Science Elective | 3 |
| MAT 132 Analytic Geometry and Calculus II**** | 4 |
| Subtotal | 18 |

SEMESTER IV

| Course Code | Credits |
|---|--------------|
| CSC 234 Computer Architecture & Assembly Language II* | 4 |
| Science Elective+++ | 4 |
| Humanities Elective | 3 |
| Social Science Elective | 3 |
| MAT 206 Introduction to Discrete Mathematics* | 4 |
| Subtotal | 18 |
| TOTAL CREDITS | 67-69 |

Mathematics Option

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|--|--------------|
| BIO 123 General Biology I* | 4 |
| CHM 123 General Chemistry I* | 4 |
| ENG 121 English Composition I | 3 |
| MAT 131 Analytic Geometry and Calculus I**** | 4 |
| Physical/Health Education | 1-3 |
| Subtotal | 16-18 |

SEMESTER II

| Course Code | Credits |
|--|-----------|
| BIO 124 General Biology II* | 4 |
| CHM 124 General Chemistry II* | 4 |
| ENG 122 English Composition II | 3 |
| MAT 132 Analytic Geometry and Calculus II* | 4 |
| Subtotal | 15 |

SEMESTER III

| Course Code | Credits |
|---|---------|
| MAT 233 Analytic Geometry and Calculus III* | 4 |
| PHY 121 General Physics I* ++ | 4 |

| | | |
|----------------------|------------------------------|--------------|
| CSC | Computer Science Elective*** | 3 |
| | Humanities Elective | 3 |
| | Social Science Elective | 3 |
| | <i>Subtotal</i> | <u>17</u> |
| SEMESTER IV | | |
| <i>Course Code</i> | | |
| MAT 234 | Differential Equations* | 4 |
| PHY 122 | General Physics II* ++ | 4 |
| | General Elective | 3 |
| | Humanities Elective | 3 |
| | Social Science Elective | 3 |
| | <i>Subtotal</i> | <u>17</u> |
| TOTAL CREDITS | | 65-67 |

*Major course

+With two years of high school algebra only take MAT 123 Introduction to Probability and Statistics, MAT 124 Statistics sequence. With two years of high school algebra and trigonometry, take MAT 129 Precalculus, and MAT 131 Analytic Geometry and Calculus I sequence.

**A 200 level biology course should be selected from the following offerings: BIO 224 Environmental Microbiology, BIO 124 Vertebrate Physiology, or BIO 202 Histology.

++Students may substitute PHY 131-132 for PHY 121-122.

***CSC 121 or higher level.

+++Students choose two 2-semester sequences from the following: CHM 123,124, BIO 123,124. PHY 121, 122, or PHY 131,132.

****Students having four years of college prep math, may take MAT 131 and 132.

Physics Option

Sample Two-Year Plan of Study

SEMESTER I

| | | |
|--------------------|--------------------------------------|----------------|
| <i>Course Code</i> | | <i>Credits</i> |
| BIO 123 | General Biology I* | 4 |
| CHM 123 | General Chemistry I* | 4 |
| ENG 121 | English Composition I | 3 |
| MAT 131 | Analytic Geometry and Calculus I**** | 4 |
| | Physical/Health Education | 1-3 |
| | <i>Subtotal</i> | <u>16-18</u> |

SEMESTER II

| | | |
|--------------------|------------------------------------|----------------|
| <i>Course Code</i> | | <i>Credits</i> |
| BIO 124 | General Biology II* | 4 |
| CHM 124 | General Chemistry II* | 4 |
| MAT 132 | Analytic Geometry and Calculus II* | 4 |
| PHY 131 | Analytical Physics I* | 4 |
| | <i>Subtotal</i> | <u>16</u> |

SEMESTER III

| | | |
|--------------------|-------------------------------------|----------------|
| <i>Course Code</i> | | <i>Credits</i> |
| ENG 122 | English Composition II | 3 |
| MAT 233 | Analytic Geometry and Calculus III* | 4 |
| PHY 132 | Analytical Physics II* | 4 |
| | Humanities Elective | 3 |
| | Social Science Elective | 3 |
| | <i>Subtotal</i> | <u>17</u> |

SEMESTER IV

| | | |
|----------------------|------------------------------|----------------|
| <i>Course Code</i> | | <i>Credits</i> |
| PHY 231 | Analytical Physics III* | 4 |
| | Computer Science Elective*** | 3 |
| | Humanities Elective | 3 |
| | Social Science Elective | 3 |
| | <i>Subtotal</i> | <u>13</u> |
| TOTAL CREDITS | | 62-64 |

FIRE SCIENCE TECHNOLOGY

Associate in Applied Science Degree

This program is offered exclusively in the evening through the Division of Continuing Education and Instructional Resources.

The Fire Science Technology Program is designed primarily to meet the continuing education needs of professional and volunteer fire fighters. The primary objective of the program is to enable fire fighters to perform their current duties more effectively and to prepare for greater levels of responsibility within the fire service system. The skills and knowledge a student will attain through completion of the program include specific career-related knowledge in protection systems, hydraulics, hazardous materials, building construction and codes, departmental organization, investigation, fire ground strategy and tactics, and fire prevention, and inspection. This program emphasizes preparation for careers.

Required Courses

| <i>Course Code</i> | <i>Credits</i> |
|--|----------------|
| CHM 107 Principles of Chemistry | 4 |
| CSC 105 Computer Applications & Systems | 3 |
| FSC 103 Introduction to Fire Protection | 3 |
| FSC 204 Building Construction | 3 |
| FSC 205 Fire Service Hydraulics | 3 |
| FSC 206 Fire Strategy and Tactics | 3 |
| FSC 207 Hazardous Materials for the Fire Service | 3 |
| FSC 209 Fire Suppression & Detection System | 3 |
| FSC 210 Fire and Arson Investigation | 3 |
| FSC 212 Fire Prevention and Inspection | 3 |
| ENG 121 English Composition I | 3 |
| ENG 122 English Composition II | 3 |
| MAT 107 Mathematics I* | 3 |
| MAT 108 Mathematics II* | 3 |
| MGT 200 Principles of Supervision | 3 |
| PHY 101 Principles of Physics I* | 4 |
| POS 201 United States State and Local Government | 3 |
| Physical/Health Education | 1-3 |
| Humanities Elective | 3 |



Social Science Elective 3

TOTAL CREDITS 60-62

*With advisor approval students may select a higher level science or mathematics sequence.

BASIC FIRE SCIENCE

Certificate Program

This program is offered exclusively in the evening through the Division of Continuing Education and Instructional Resources. The fire science certificate program addresses the needs of fire service personnel, both professional and volunteer, and others in related fields of employment.

Middlesex County College offers an associate degree program in fire science technology which requires all of the courses in the certificate program.

Required Courses

| Course Code | | Credits |
|----------------------|--|-----------|
| FSC 103 | Introduction to Fire Protection | <u>3</u> |
| FSC 204 | Building Construction | 3 |
| FSC 205 | Fire Service Hydraulics | 3 |
| FSC 206 | Fire Strategy and Tactics | 3 |
| FSC 207 | Hazardous Materials for the Fire Service | 3 |
| FSC 209 | Fire Suppression & Detection System | 3 |
| FSC 210 | Fire and Arson Investigation | 3 |
| FSC 212 | Fire Prevention and Inspection | 3 |
| CHM107 | Principles of Chemistry | 4 |
| ENG 121 | English Composition I | 3 |
| MAT 107 | Mathematics I | 3 |
| TOTAL CREDITS | | 34 |

HEATING, VENTILATING, AND AIR CONDITIONING, DESIGN TECHNOLOGY

(The Energy Technology Program)

Associate in Applied Science Degree

The heating, ventilating, and air conditioning industry (HVAC) is a dynamic and ever growing field. Career opportunities for technicians may be found with mechanical contractors, equipment manufacturers and other large scale industrial and commercial facilities.

The development of the two-year, career-oriented program is a joint effort of the College and the Middlesex County Vocational-Technical Schools. Graduates are prepared for a wide variety of entry level positions in this rapidly expanding field. This is a design program, not service and repair.

Major courses in this program are offered only in the evenings.

This program emphasizes preparation for careers. Graduates who plan to transfer to upper division colleges are subject to the transfer policy of the receiving colleges which may or may not accept all or part of the credits earned.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | | Credits |
|-----------------|--|-----------|
| HVA 101 | Air Conditioning, Refrigeration, & Heating Principles I* | 4 |
| MEC 123 | Technical /Graphics/CAD I* | 3 |
| MAT 107 | Mathematics I | 3 |
| CSC 109 | Basic Programming and Systems | 3 |
| ENG 121 | English Composition I | <u>3</u> |
| <i>Subtotal</i> | | 16 |

SEMESTER II

| Course Code | | Credits |
|-----------------|---|-----------|
| HVA 102 | Air Conditioning, Refrigeration, & Heating Principles II* | 4 |
| HVA 106 | HVAC Drafting* | 2 |
| MAT 108 | Mathematics II | 3 |
| PHY 101 | Principles of Physics | 4 |
| ENG 122 | English Composition II | <u>3</u> |
| <i>Subtotal</i> | | 16 |

SEMESTER III

| Course Code | | Credits |
|---------------------------------|----------------------------|--------------|
| HVA 201 | HVAC Design Principles I* | 4 |
| HVA 203 | HVAC Equipment Laboratory* | 1 |
| MEC 210 | Fluid Systems* | 4 |
| ELT 215 | Applied Electricity* | 3 |
| <u>Social Science Elective+</u> | | <u>3</u> |
| Physical/Health Education | | 1-3 |
| <i>Subtotal</i> | | 16-18 |

SEMESTER IV

| Course Code | | Credits |
|----------------------|-----------------------------------|--------------|
| HVA 202 | HVAC Design Principles II* | <u>4</u> |
| HVA 204 | Mechanical Estimating & Planning* | 3 |
| HVA 210 | Thermodynamics of Refrigeration | 3 |
| ELT 216 | HVAC Control Systems* | 3 |
| Humanities Elective+ | | <u>3</u> |
| <i>Subtotal</i> | | 16 |
| TOTAL CREDITS | | 64-65 |

*Major course

+Students must have 3 credits of Social Science and 3 credits of Humanities.

HEATING, VENTILATING, AND AIR CONDITIONING DESIGN TECHNOLOGY

(An Energy Technology Program)

Certificate Program

This program is offered in conjunction with Middlesex County Vocational & Technical High School.

Required Courses

| Course Code | | Credits |
|-------------|---|---------|
| HVA 101 | Air Conditioning, Refrigeration, & Heating Principles I* | 4 |
| HVA 102 | Air Conditioning, Refrigeration, & Heating Principles II* | 4 |

| | | |
|----------------------|---------------------------------|--------------|
| MEC 123 | Technical Graphics/CAD I* | 3 |
| MAT 107 | Mathematics I | 3 |
| MAT 108 | Mathematics II | 3 |
| CSC 109 | Basic Programming and Systems | 3 |
| ENG 121 | English Composition I | 3 |
| ENG 122 | English Composition II | 3 |
| HVA 106 | HVAC Drafting* | 2 |
| HVA 203 | HVAC Equipment Laboratory | 1 |
| | Select Two: | |
| HVA 201 | HVAC Design Principles I* | 4 |
| MEC 210 | Fluid Systems* | 4 |
| ELT 215 | Applied Electricity* | 3 |
| HVA 202 | HVAC Design Principles II* | 4 |
| HVA 210 | Thermodynamics of Refrigeration | 3 |
| ELT 216 | HVAC Control Systems* | 3 |
| TOTAL CREDITS | | 35-37 |

*Major Course

INDUSTRIAL TECHNOLOGY

(Quality Control)

Associate in Applied Science Degree

This program is offered exclusively in the evenings through the Division of Continuing Education and Instructional Resources.

The program provides students with technical education in a variety of industrial career fields with an emphasis on the practical aspects of Quality Control problem solving in today's industrial world. The Industrial Technology program provides students with an excellent balance of theory and hands-on training necessary for a career in production management, process engineering, inspection, reliability and quality control.

Major Courses

| Course Code | | Credits |
|-------------|--|---------|
| BUS 101 | Business Organization and Management | 3 |
| CHM117 | Chemistry I | 4 |
| ELT 215 | Applied Electricity* | 3 |
| IND 103 | Occupational Safety and Health & the OSHA Law* | 3 |
| IND 104 | Inspection Techniques* | 3 |
| IND 105 | Industrial Graphics and Specifications* | 2 |
| IND 203 | Statistical Quality Control I* | 3 |
| IND 204 | Statistical Quality Control II* | 3 |
| IND 207 | Quality Control Concepts and Techniques* | 3 |
| MEC 111 | Manufacturing Processes & Materials I* | 4 |
| MEC 116 | Numerical Control, Robotics & Bonding Processes* | 3 |
| MGT 210 | Concepts of Business Management | 3 |
| MGT 214 | Operations Management | 3 |

Other Required Courses

| Course Code | | Credits |
|----------------------|---------------------------|--------------|
| CSC 109 | Basic Programming | 3 |
| ENG 121 | English Composition I | 3 |
| ENG 122 | English Composition II | 3 |
| MAT 107 | Mathematics I+ | 3 |
| MAT 108 | Mathematics II++ | 3 |
| PHY 101 | Principles of Physics I | 3 |
| | Social Science Elective | 3 |
| | Humanities Elective | 3 |
| | Physical/Health Education | 1-3 |
| TOTAL CREDITS | | 66-68 |

*Major Course

+Students may use MAT 109, MAT 110, MAT 129 or MAT 131 with the approval of their advisor.

++Students may use MAT 110, MAT 112, MAT 131 or MAT 132 with the approval of their advisor.

INDUSTRIAL TECHNOLOGY

(Quality Control)

Certificate Program

Required Courses

| Course Code | | Credits |
|----------------------|---|-----------|
| BUS 101 | Business Organization and Management | 3 |
| ENG 121 | English Composition I | 3 |
| ENG 122 | English Composition II | 3 |
| IND 104 | Inspection Techniques* | 3 |
| IND 105 | Industrial Graphics and Specifications* | 2 |
| IND 207 | Quality Control Concepts and Techniques* | 3 |
| MAT 107 | Mathematics I+ | 3 |
| MEC 111 | Manufacturing Processes & Materials I | 4 |
| MEC 116 | Numerical Control, Robotics and Bonding Processes | 3 |
| MGT 210 | Concepts of Business Management | 3 |
| MGT 214 | Operations Management | 3 |
| TOTAL CREDITS | | 33 |

*Major Course

+Students may take higher level math with proper advisement.

MANUFACTURING ENGINEERING TECHNOLOGY

Associate in Applied Science Degree

Manufacturing Engineering Technology provides the right combination of theory and hands-on training for the rapidly developing field of automated, flexible manufacturing. The program emphasizes manufacturing, electronics, robotics, and computers. Expertise in a wide variety of automated manufacturing applications prepares graduates for careers as technicians and engineer aides.

This program emphasizes preparation for careers. Graduates who plan to transfer to upper division colleges are subject to the transfer policy of the receiving college. Students may choose to participate in the Joint Admissions Program with the New Jersey Institute of Technology (NJIT) which offers full faith in transfer. For more information, call the Office of Admissions and Recruitment at (908) 906-2510.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | | Credits |
|-------------|--|---------|
| CSC 117 | Introduction to Technical Programming | 2 |
| ENG 121 | English Composition I | 3 |
| MAT 109 | College Algebra and Trigonometry I+ | 3 |
| MEC 111 | Manufacturing Processes & Materials I* | 4 |
| MEC 123 | Technical Graphics/CAD I* | 3 |
| | Physical/Health Education | 1-3 |
| | <i>Subtotal</i> | 16-18 |

SEMESTER II

| Course Code | | Credits |
|-------------|---|---------|
| ELT 106 | Technical Electricity* | 4 |
| MAT 110 | College Algebra & Trigonometry II | 2 |
| MEC 112 | Manufacturing Processes & Materials II* | 3 |
| MEC 124 | Technical Graphics/CAD II* | 3 |
| PHY 115 | College Physics I | 4 |
| | <i>Subtotal</i> | 16 |

SEMESTER III

| Course Code | | Credits |
|-------------|---|---------|
| CIM 203 | Robotics & Automated System Components* | 4 |
| CIM 204 | Computer Aided Manufacturing* | 3 |
| ELT 111 | Digital Electronics* | 3 |
| ENG 122 | English Composition II | 3 |
| PHY 116 | College Physics II | 4 |
| | <i>Subtotal</i> | 18 |

SEMESTER IV

| Course Code | | Credits |
|-------------|---|---------|
| CIM 206 | Computer Integrated Manufacturing Project* ** | 3 |
| CIT 105 | Statics & Strength of Materials* | 4 |
| MAT 112 | Unified Calculus+ | 3 |
| | Humanities Elective | 3 |
| | Social Science Elective | 3 |
| | <i>Subtotal</i> | 15 |
| | TOTAL CREDITS | 66-68 |

*Major course

**Course may be offered at New Jersey Institute of Technology.

+Students may take either MAT 129-131 or MAT 131-132 in place of MAT 109-110-112.

The Mechanical Engineering Technology program provides students with an excellent balance of theory and hands-on training necessary for a career in industry.

This program is accredited by TAC/ABET the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. The program provides the necessary theory and hands-on training for careers in CAD drafting, mechanical design, material testing, fluid power, stress analyst or as an engineering assistant.

SEMESTER I

| Course Code | | Credits |
|-------------|--|---------|
| CSC 117 | Introduction to Technical Programming | 2 |
| ENG 121 | English Composition I | 3 |
| MAT 109 | College Algebra & Trigonometry I+ | 3 |
| MEC 111 | Manufacturing Processes & Materials I* | 4 |
| MEC 123 | Technical Graphics/CAD I* | 3 |
| | Physical/Health Education | 1-3 |
| | <i>Subtotal</i> | 16-18 |

SEMESTER II

| Course Code | | Credits |
|-------------|---|---------|
| ELT 106 | Technical Electricity* | 4 |
| MAT 110 | College Algebra & Trigonometry II+ | 2 |
| MEC 112 | Manufacturing Processes & Materials II* | 3 |
| MEC 124 | Technical Graphics/CAD II* | 3 |
| PHY 115 | College Physics I | 4 |
| | <i>Subtotal</i> | 16 |

SEMESTER III

| Course Code | | Credits |
|-------------|----------------------------------|---------|
| CIT 105 | Statics & Strength of Materials* | 4 |
| ENG 122 | English Composition II | 3 |
| MEC 213 | Technical Graphics/CAD III* | 3 |
| | or | 3 |
| MEC 203 | Thermodynamics* | 4 |
| PHY 116 | College Physics II | 4 |
| | Humanities Elective | 3 |
| | <i>Subtotal</i> | 17 |

SEMESTER IV

| Course Code | | Credits |
|-------------|---------------------------|---------|
| CIT 203 | Strength of Materials II* | 4 |
| MAT 112 | Unified Calculus | 3 |
| MEC 204 | Fluid Mechanics* | 4 |
| MEC 218 | Kinematics* | 4 |
| | Social Science Elective | 3 |
| | <i>Subtotal</i> | 18 |
| | TOTAL CREDITS | 67-69 |

*Major course

+Students may take either MAT 129-131 or MAT 131-123 in place of MAT 109-110-112.

MECHANICAL ENGINEERING TECHNOLOGY (DESIGN)

Associate in Applied Science Degree

MECHANICAL ENGINEERING TECHNOLOGY

(Design: Using the Autocad Program)

Certificate Program

Sample One-Year Plan of Study

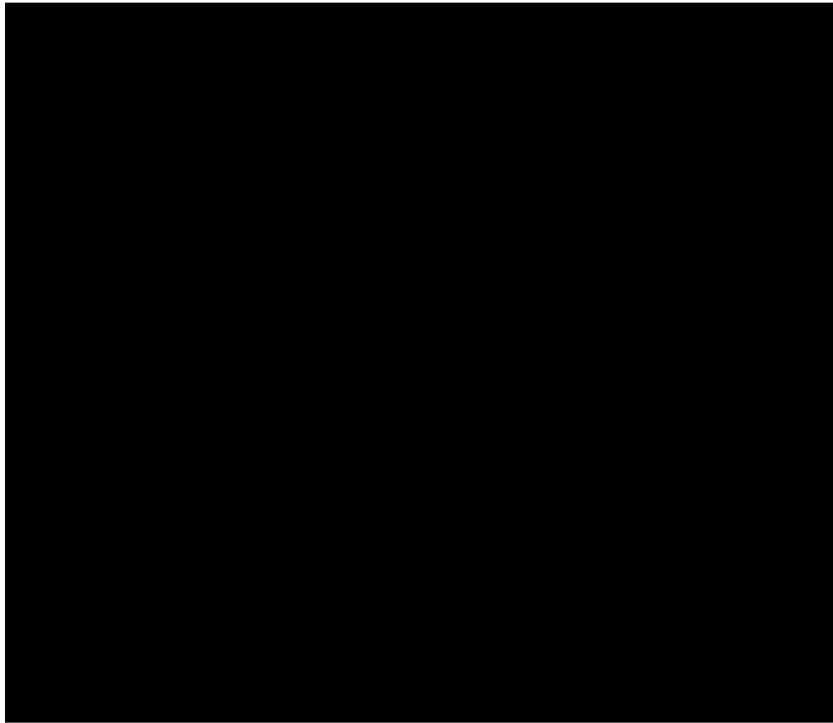
SEMESTER I

| Course Code | | Credits |
|-------------|--|---------|
| CSC 117 | Introduction to Technical Programming | 2 |
| ENG 121 | English Composition I | 3 |
| MAT 109 | College Algebra & Trigonometry I | 3 |
| MEC 111 | Manufacturing Processes & Materials I* | 4 |
| MEC 123 | Technical Graphics/CAD I* | 3 |





DIVISION OF HEALTH TECHNOLOGIES



The Division of Health Technologies prepares individuals for careers in health care. Responsive to the changing and growing needs for health care personnel in the community, the Division offers programs which combine general education with knowledge and occupational skills in specific helping fields.

This education takes place in the college setting which includes a modern, well-equipped health technologies education center. Cooperative arrangements are made with many community health agencies which are used as extended campus laboratories for clinical experience. The educational programs are conducted by well-qualified college and clinical faculty who are academically prepared and are professionals in their specific fields.

Graduates of each program are qualified to take the licensing/certifying examination and are prepared to practice in the health occupation of their choice. Graduates make significant contributions to the health needs of the community.

Students planning to enroll in the Health Technology programs must be approved for admission by the Committee on Admissions.

MARILYN KEENER, Associate Professor and Dean

PROGRAM FACULTY

Dental Auxiliaries Education Department

Chairperson: Elaine A. Buscemi, *Associate Professor*

Professor: Harmon Zacune

Assistant Professors: Dorothy DeFoe, C. Merry LeBlond, Claire A. Pean and Catherine Reilly

Instructor: Audrey Freier

Joint Nursing Program, UMDNJ

Dean UMDNJ School of Nursing:

Frances W. Quinless, *Professor*

Chairperson: Position Vacant

Assistant Clinical Professors: Janice Aloï, Ann Brandes, Zelia Brown, Patrice Case, Eileen Ford, Marcia Gardner, Sandra Kregeloh, Patricia Morrissey, Donna Steele, Mary Tistler, Mary Ann Troiano and Anne Ugrovics

Education Specialist: Sandra Herman

Medical Laboratory Technology Department

Chairperson: Stephen P. Larkin III, *Instructor*

Instructor: Dolly Hsu

Psycho-social Rehabilitation and Treatment Program

Director: Kenneth Gill

Assistant Professor: Nora Barrett

Radiography Education Department

Chairperson: Albert M. Snopek, *Instructor*

Assistant Professor: Millicent Nicholas

Assistant Instructor: Kimberly Krapels

Clinical Education Coordinator:

Trini Koscielicki

Students may be required to take developmental coursework as a result of their performance on the NJ College Basic Skills Placement Test. In those cases, students may take additional semesters or summer semester to complete all program requirements for graduation (refer to page 26 for additional information).

Students enrolled in any Health Technology program must meet certain standards of progress:

1. Achieve a grade of C or better in all major clinical courses.
2. Complete designated prerequisites before enrolling in clinical courses.

Additional standards exist for specific programs and are described with the program.

DENTAL HYGIENE

Associate in Applied Science Degree

The Dental Hygiene program prepares the student to be a skilled dental hygienist through general education and science courses, and both laboratory and clinical experiences. Specialty courses in dental hygiene include both theory and practice in classrooms, laboratory, operatory, clinic, and X-ray facilities furnished with the most modern dental equipment and multimedia resources. Visiting dental clinicians add to the high-quality education in the dental specialties.

The dental hygienist is a licensed professional who works under the supervision of a dentist and uses scientific methods for the control and prevention of oral diseases. The hygienist provides specific clinical services for each patient. These include performing oral examinations, cleaning stains and deposits from teeth, applying decay preventing agents, taking and processing oral X-rays, giving nutritional counseling, and providing patient education in preventive dentistry.

Graduates of this program are prepared to take the North East Regional and the National Board Examinations for licensure to practice.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | | Credits |
|-------------|------------------------------------|---------|
| BIO 111 | Human Anatomy and Physiology I | 4 |
| BIO 211 | Principles of Microbiology | 4 |
| DHY 102 | Radiology* | 2 |
| DHY 105 | Oral Anatomy and Histology* | 5 |
| DHY 107 | Preventive Oral Health Services I* | 3 |
| | <i>Subtotal</i> | 18 |

SEMESTER II

| Course Code | | Credits |
|-------------|-------------------------------------|---------|
| BIO 112 | Human Anatomy and Physiology II | 4 |
| DHY 108 | Preventive Oral Health Services II* | 5 |
| DHY 110 | Nutrition* | 3 |
| DHY 204 | Dental Materials* | 2 |

| | | |
|---------|-----------------------|----|
| DHY 205 | Periodontology* | 2 |
| ENG 121 | English Composition I | 3 |
| | <i>Subtotal</i> | 19 |

SEMESTER III

| Course Code | | Credits |
|-------------|--------------------------------------|---------|
| CHM107 | Principles of Chemistry | 4 |
| DHY 203 | General and Oral Pathology* | 2 |
| DHY 207 | Dental Health Education* | 2 |
| DHY 211 | Preventive Oral Health Services III* | 5 |
| ENG 122 | English Composition II | 3 |
| PSY 123 | Introductory Psychology | 3 |
| | <i>Subtotal</i> | 19 |

SEMESTER IV

| Course Code | | Credits |
|-------------|-------------------------------------|---------|
| DHY 201 | Dental Specialties* | 2 |
| DHY 208 | Pharmacology* | 2 |
| DHY 210 | Public Health* | 2 |
| DHY 212 | Preventive Oral Health Services IV* | 5 |
| | Physical/Health Education | 1-3 |
| | Humanities Elective | 3 |
| | <i>Subtotal</i> | 15-17 |
| | TOTAL CREDITS: | 71-73 |

*Major course

JOINT NURSING PROGRAM, UMDNJ/MCC

Associate in Science Degree

The Joint Nursing Program is offered collaboratively by the University of Medicine and Dentistry of New Jersey (UMDNJ) and Middlesex County College. All courses are offered on the campus of MCC. The general education courses are taught by the MCC faculty and the nursing courses are taught by the UMDNJ nursing faculty.

The program is designed to prepare students for entry-level positions in nursing and to take the National Council Licensure Examination for Registered Nurses (NCLEX-RN), and is designed to facilitate articulation into UMDNJ Bachelor's of Science in Nursing Program with Ramapo College of New Jersey.

This program is fully accredited by the New Jersey Board of Nursing and The National League for Nursing (NLN).

The New Jersey State Board of Nursing requires that an applicant for licensure as a registered nurse must "submit to the Board evidence in such form as the Board may prescribe that the applicant: . . . is of good moral character, is not a habitual user of drugs and has never been convicted or has not pleaded nolo contendere, non vult contendere or non vult to an indictment, information or complaint alleging a violation of any Federal or State law relating to narcotic drugs . . ." Application for licensure may be denied by the Board if violations exist.

Application for licensure also may be denied by the board of Nursing if an applicant has charges pending or has ever been convicted of a felony or misdemeanor and/or been found guilty of professional misconduct or negligence. These matters should be cleared with the New Jersey Board of Nursing before applying for admission to the Joint Nursing Program.

Advanced Placement Program

The Advanced Placement Program (APP) offers highly motivated students with health care experience a mechanism to obtain credit for previously acquired nursing knowledge and skills. The candidate must pass a nationally prepared written test and a clinical performance evaluation in order to receive credit for nursing courses. Candidates who challenge nursing courses must also successfully complete a Transition Course.

Standards of Progress

1. Maintenance of cumulative grade point average of 2.0;
2. Must achieve a C grade or better in all nursing and science courses in order to progress in the curriculum;
3. May have one (1) unsatisfactory grade (i.e. a grade less than C) in any nursing course for the duration of the program;
4. May retake a nursing or science course only once and obtain a passing grade (i.e., C or better);

Students who do not successfully complete the major nursing sequence under these conditions may not continue in the program.

Each nursing student prior to matriculation must undergo a complete history and physical examination and be in compliance with the UMDNJ Student Policy on Immunizations and Immune Status.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|--|---------|
| NRS 101 Basic Principles of Nursing | 4 |
| NRS 102 Principles of Mental Health Nursing* | 4 |
| BIO 111 Anatomy and Physiology I | 4 |
| PSY 123 Introductory Psychology | 3 |
| ENG 121 English I | 3 |
| <i>Subtotal</i> | 18 |

Wintersession

| Course Code | Credits |
|-------------------------------------|---------|
| NRS 103 Medication Administration** | 1 |

SEMESTER II

| Course Code | Credits |
|--|---------|
| NRS 104 Nursing and the Childbearing Family* | 4 |
| NRS 105 Nursing and the Childcaring Family* | 4 |
| BIO 112 Anatomy and Physiology II | 4 |
| ENG 122 English II | 3 |
| CSC 107 Computer Applications in Health Care | 1 |
| <i>Subtotal</i> | 16 |

*May be taken in any sequence.

**May also be offered in Summer prior to Semester I.

Summer Session (Optional)

| Course Code | Credits |
|-------------------------------------|---------|
| NRS 211 Clinical Enrichment Program | 3 |

SEMESTER III

| Course Code | Credits |
|-------------------------------------|---------|
| NRS 206 Principles of Adult Nursing | 4 |
| NRS 207 Principles of Adult Nursing | 4 |
| BIO 211 Principles of Microbiology | 4 |
| Humanities Elective | 3 |
| <i>Subtotal</i> | 15 |

SEMESTER IV

| Course Code | Credits |
|---|---------|
| NRS 208 Changes & Alterations in Life-Long Health | 4 |
| NRS 209 Senior Experience | 4 |
| SCI 121 Physical Science | 4 |
| Humanities Elective | 3 |
| Physical Education Elective | 1 |
| <i>Subtotal</i> | 16 |
| TOTAL CREDITS | 66-69 |

MEDICAL LABORATORY TECHNOLOGY

Associate in Applied Science Degree

The Medical Laboratory Technician program provides qualified personnel for laboratories in the community. Graduates of this program work as members of the paramedical team, performing scientific analyses that facilitate physicians' diagnoses and treatment of diseases. The primary objective of the curriculum is to educate medical laboratory technicians to test specimens accurately and swiftly, with the highest ethical standards.

Students have an integrated experience, with lectures and laboratory practices both on-campus and in clinical facilities off-campus. Positions for medical laboratory technicians are available in hospitals, reference laboratories, research laboratories, pharmaceutical companies, veterinary laboratories, as well as sales and quality control.

Graduates are eligible to meet requirements for certification by the Registry of Medical Technologists, American Society of Clinical Pathologists, and other certifying bodies.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|--|---------|
| BIO 117 Biology I | 4 |
| CHM117 Chemistry I | 4 |
| ENG 121 English Composition I | 3 |
| MAT 107 Mathematics I | 3 |
| MED 101 Introduction to the Medical Laboratory I | 2 |
| <i>Subtotal</i> | 16 |



SEMESTER II

| Course Code | Credits |
|---|-----------|
| BIO 118 Biology II | 4 |
| CHM118 Chemistry II | 4 |
| ENG 122 English Composition II | 3 |
| MAT 108 Mathematics II | 3 |
| MED 102 Introduction to the Medical Laboratory II | 3 |
| PSY 123 Introductory Psychology | 3 |
| <i>Subtotal</i> | <u>20</u> |

SUMMER SESSION

| Course Code | Credits |
|--|---------|
| MED 210 Medical Laboratory Technology I* | 6 |

SEMESTER III

| Course Code | Credits |
|--|--------------|
| BIO 221 Microbiology | 4 |
| CHM201 Principles of Organic Chemistry | 4 |
| MED 211 Medical Laboratory Technology II** | 8 |
| Physical/Health Education | 1-3 |
| <i>Subtotal</i> | <u>17-19</u> |

SEMESTER IV

| Course Code | Credits |
|----------------------------------|-----------|
| CHM202 Biochemistry | 4 |
| MED 212 Medical Technology III** | 8 |
| Humanities Elective | 3 |
| <i>Subtotal</i> | <u>15</u> |

TOTAL CREDITS 74-76

*This is an 8-week, 40 hour/week summer clinical practicum.

**16 hours/week clinical practicum.

SEMESTER II

| Course Code | Credits |
|---|-----------|
| BIO 105 Heredity, Evolution and Society | 4 |
| PSR 104 Clinical Principles in Psycho-social Rehabilitation and Treatment | 3 |
| PSR 105 Rehabilitation and the Individual with Serious Mental Illness I | 5 |
| SOC 121 Introduction to Sociology | 3 |
| <i>Subtotal</i> | <u>15</u> |

SEMESTER III

| Course Code | Credits |
|---|-----------|
| BIO 106 Human Biology, Biomedical Issues and Society | 4 |
| PSR 106 Rehabilitation and the Individual with Serious Mental Illness II | 5 |
| PSR 107 Systems Management and the Individual with Serious Mental Illness | 3 |
| PSY 235 Abnormal Psychology | 3 |
| Humanities Elective | 3 |
| <i>Subtotal</i> | <u>18</u> |

SEMESTER IV

| Course Code | Credits |
|---|--------------|
| ENG 122 English II | 3 |
| PHI 123 Ethics | 3 |
| PSR 108 Rehabilitation and the Individual with Serious Mental Illness III | 5 |
| PSR 109 Emerging Trends in Psycho-social Rehabilitation and Treatment | 3 |
| Physical Education or Health | 1-3 |
| <i>Subtotal</i> | <u>15-17</u> |

TOTAL CREDITS 64-66

PSYCHO-SOCIAL REHABILITATION AND TREATMENT JOINT PROGRAM, UMDNJ/MCC

Associate in Applied Science

Psycho-social rehabilitation and treatment consists of state-of-the-art techniques used to care for mentally ill individuals in community based service settings.

It is an exciting and innovative field that empowers and encourages the psychiatrically disabled to become more self-sufficient, improve their quality of life, and sustain themselves in the community.

Sample Two-Year Plan of Study**SEMESTER I**

| Course Code | Credits |
|--|-----------|
| CSC 129 Computers in Health Care | 1 |
| ENG 121 English I | 3 |
| PSR 101 Introduction to the Principles of Psycho-social Rehabilitation | 3 |
| PSR 102 Communication Techniques for Interviewing and Counseling | 3 |
| PSR 103 Introduction to Group Dynamics | 3 |
| PSY 123 Introduction to Psychology | 3 |
| <i>Subtotal</i> | <u>16</u> |

RADIOGRAPHY EDUCATION

Associate in Applied Science Degree

The Radiography Education program includes general education and science courses with extensive study in radiography designed to provide comprehensive theoretical and practical knowledge and skills. Instruction takes place in well-equipped classrooms, small-group study areas, and energized radiographic units with two fully operational processing rooms.

Rapid growth in the medical field has created a great demand for individuals trained in this allied health profession. In addition to hospital work, graduates prepare for positions in private physicians' offices, clinics, and X-ray manufacturing firms and film supply companies.

Graduates of this program are prepared to take The American Registry of Radiologic Technology Examination for National Registration and New Jersey Certification.

Standards of Progress

1. Maintain a cumulative grade point average of 2.0;
2. Must achieve a C grade or better in all Radiography and Science courses in order to progress in

the curriculum;

3. Must complete the Radiography Education program in no less than two and no more than five consecutive years from the point of admission to the full time program track.

Students who do not complete the major Radiography course sequence under these conditions may not continue in the program.

Students must follow the college policy regarding the repeating of courses with less than satisfactory grade.

NOTE: This course of study runs for 24 consecutive months.

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|---|-----------|
| RAD 201 Introduction to Radiographic Technology | 4 |
| RAD 203 Radiographic Positioning/Anatomy I | 3 |
| RAD 207 Exposure I/Radiation Protection | 4 |
| BIO 111 Human Anatomy & Physiology | 4 |
| ENG 121 English I | 3 |
| <i>Subtotal</i> | <u>18</u> |

SEMESTER II

| Course Code | Credits |
|---|-----------|
| RAD 204 Radiographic Positioning/Anatomy II | 3 |
| RAD 208 Exposure II | 2 |
| RAD 210 Clinical Practicum I | 2 |
| CSC 107 Computers in Health Technologies | 1 |
| BIO 112 Human Anatomy & Physiology II | 4 |
| ENG 122 English II | 3 |
| PHY 108 Radiographic Physics I | 3 |
| <i>Subtotal</i> | <u>18</u> |

SUMMER

SESSION I

| Course Code | Credits |
|--|---------|
| RAD 205 Radiographic Positioning/Anatomy III | 4 |

SESSION II

| | |
|-------------------------------|----------|
| RAD 220 Clinical Practicum II | <u>2</u> |
| <i>Subtotal</i> | <u>6</u> |

SEMESTER III

| Course Code | Credits |
|---|-----------|
| RAD 127 Radiation Biology | 1 |
| RAD 206 Radiographic Positioning/Anatomy IV | 3 |
| RAD 215 Advanced Radiography | 2 |
| RAD 230 Clinical Practicum III | 2 |
| PHY 109 Radiologic Physics II | 4 |
| <i>Subtotal</i> | <u>12</u> |

SEMESTER IV

| Course Code | Credits |
|-----------------------------------|---------|
| RAD 219 Introduction to Pathology | 2 |
| RAD 250 Clinical Practicum IV | 3 |
| RAD 256 Radiographic Seminar I | 2 |
| PSY 123 Introductory Psychology | 3 |

| | |
|---------------------------|--------------|
| Humanities Elective | 3 |
| Physical/Health Education | <u>1-3</u> |
| <i>Subtotal</i> | <u>14-16</u> |

SUMMER

SESSION I

| Course Code | Credits |
|------------------------------|---------|
| RAD 260 Clinical Practicum V | 3 |

SESSION II

| | |
|---------------------------------|----------|
| RAD 257 Radiographic Seminar II | <u>2</u> |
| <i>Subtotal</i> | <u>5</u> |

TOTAL CREDITS 73-75

SURGICAL TECHNOLOGY

The University of Medicine and Dentistry of New Jersey School of Health Related Professions offers a two-semester Surgical Technology program. Before applicants are considered for admission to the program, they must have completed any necessary basic skills remediation, Human Anatomy and Physiology I and Medical Terminology with grades of C or better.

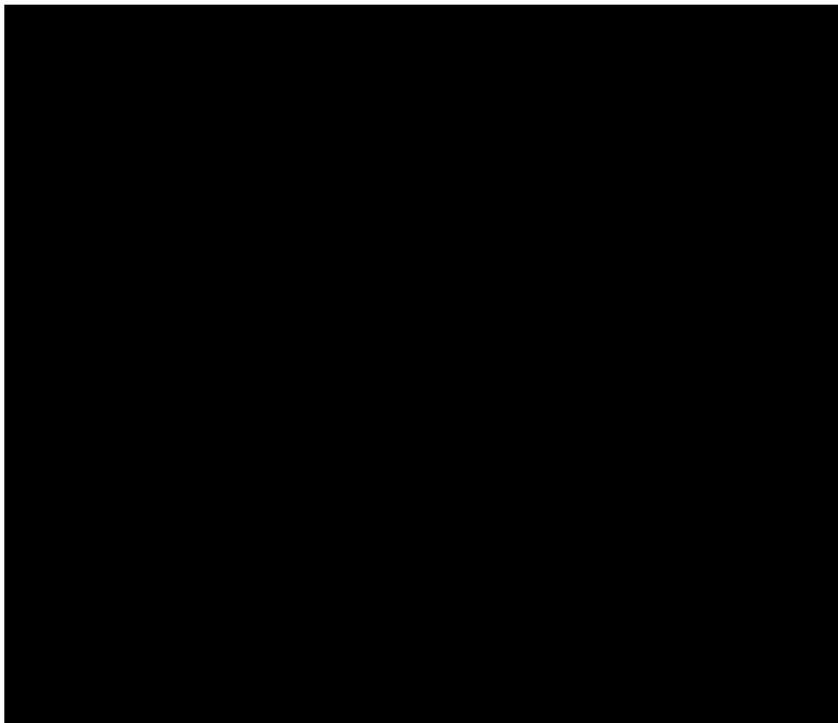
Students wishing to be considered for admission to this program may take preprofessional courses and required biological science courses at Middlesex County College. These courses include Biology 111, Biology 112, (Human Anatomy and Physiology I and II), and Biology 211 (Principles of Microbiology). Any necessary remediation courses may also be taken at Middlesex county College.

A certificate in Surgical Technology is awarded by the University of Medicine and Dentistry of New Jersey upon successful completion of the program.

Students wishing to pursue the Surgical Technology Program enroll through the Division of Continuing Education. For additional information contact Stephen P. Larkin III, Medical Laboratory Technology, 906-2581.



DIVISION OF SOCIAL SCIENCES AND HUMANITIES



The Division of Social Sciences and Humanities awards the Associate in Arts, Associate in Applied Science, and Associate in Science degrees.

The Associate in Arts degree program in Liberal Arts offers a choice of 15 options or mini-majors.

The Division offers Associate in Applied Science degree programs in the Education area of Early Childhood Assistant, Special Education Assistant, and Teacher Assistant. A one-year Teacher Aide Certificate program is also offered.

An Associate in Science degree program is offered in Criminal Justice, with options in Correction Administration and Police Science.

The Division offers an Intensive English As A Second Language Program.

ERIC HEPBURN, *Associate Professor and Dean*

PROGRAM FACULTY

The Center for the Study of Prejudice, Genocide, and the Holocaust

Bonnie Dimun: Executive Director for Organizational Advancement

John Dunning: Director of Minority Student Affairs

Eileen Hansen: Chairperson and Associate Professor, Department of English as a Second Language

Eric Hepburn: Associate Professor and Dean, Division of Social Sciences and Humanities

Saul Kelton: Assistant Professor, Department of Psychology and Learning Development

Albert Nicolai: Professor, Department of English

Norman Poppel: Professor, Department of Psychology and Learning Development

Iris Ramer: Instructor, Department of English as a Second Language

Jerome Shindelman: Professor, Department of History and Social Behavior

English Department

Chairperson: Santi V. Buscemi, *Professor*

Professors: Kathy A. Fedorko, Andrew C. Kistulentz, Ralph Manogue, RoseAnn Morgan, Albert Nicolai and Robert Roth

Associate Professors: Virve S. Ettinger, Naomi Given, Jack Moskowitz, Edith S. Rehbein, Joseph P. Sikoryak, Richard Strugala and Daniel Zimmerman

Assistant Professors: Ernest Albrecht, James Bernarducci, Ricki Cohn, Gertrude Coleman, Charles V. DiDomenico, Emanuel diPasquale, Jane Lasky, Angela Lugo, Benjamin Marshall, Jerome Olson, Kenneth Rader and Dympna Ugwu-Oju

Instructors: Sallie Del Vecchio, Renee Price, Joseph Roach, Aimee Szilagyi and Shirley Wachtel

English As A Second Language Department

Chairperson: M. Eileen Hansen, *Associate Professor*

Professor: Flora Mancuso Edwards

Assistant Professors: Louise Beyer, Vicki Kahn, Ellen Measday and Iris Ramer

PROGRAM FACULTY (CONTINUED)

Health, Physical Education, and Recreation Department

Chairperson: Robert Zifchak, *Professor*

Professor: Agnes A. Hirsch

Associate Professor: Donna R. Gray

Assistant Professors: Patrick Honey, James A. Kahora and John Sacchi, Jr.

Instructors: Marilyn Jones and Joseph Servon

History and Social Behavior Department

Chairperson: Position Vacant

Professors: Irwin H. Kantor, John C. Kenny, Karoly Nagy, Jerome Shindelman and Diane Z. Wilhelm

Associate Professors: Margaret Cullen, John Frary, Michael L. Greenhouse, Doris Holmes and Irene A. Pearse

Assistant Professors: Vincent Ianuale, Elliot L. Pasternack and Patricia A. Payne

Modern Languages Department and Center for International Education

Chairperson: Virgil H. Blanco, *Professor*

Professor: Margarete K.M. Driver

Associate Professor: Robert L. Dalton

Assistant Professor: Elliot J. Ramer

Psychology and Learning Development Department

Chairperson: John J. Gutowski, *Assistant Professor*

Professors: Roslyn Mass, Martin N. Pearlman and Norman Poppel

Associate Professor: Theresa T. Holt

Assistant Professors: Saul B. Kelton, William R. Kuhl, Glenn T. Morris and Steven B. Rosengarten

Visual and Performing Arts Department

Chairperson: Jay D. Siegfried, *Associate Professor*

Associate Professors: Dennis Lick, James F. Morgan and Marion Munk

Assistant Professors: Mary Ann Bogar and Lynn Winik

Students may be required to take developmental coursework as a result of their performance on the NJ College Basic Skills Placement Test. In those cases, students may take additional semesters or summer semester to complete all program requirements for graduation (refer to page 26 for additional information).

THE LIBERAL ARTS

Associate in Arts Degree

A college-level liberal arts education is the foundation for lifelong intellectual development. In addition, it prepares one to adapt to, and take advantage of, an almost unlimited number of economic opportunities that the present holds and the future will create.

The Division of Social Sciences and Humanities offers an associate-in-arts-degree program with two major emphases: to prepare the student for entry into a four-year college or university at the junior-year level and to provide a solid foundation on which to build in adapting to job and training opportunities after graduation. Whatever the student's immediate interest, he or she receives a solid foundation upon which to build conceptual and communication skills and the essential components of a general education, which make up a large part of every liberal arts career or professional program at the bachelor's degree level.

Liberal Arts Curriculum Requirements

| Course Code | Credits | |
|----------------------|--|--------------|
| ENG 121/122 | English Composition I and II | 6 |
| HIS 121/122 | History of Western Civilization I and II | 6 |
| | Humanities | 6 |
| | Laboratory Science | 8 |
| | Mathematics | 6-8 |
| | Modern Languages | 6 |
| | Physical/Health Education | 1-3 |
| | Social Sciences | 6 |
| | Liberal Arts Electives (12 in an option) | 13 |
| | Free Electives | 6 |
| TOTAL CREDITS | | 64-68 |

Humanities Requirement

This six-credit requirement may be met by three-credit general education courses selected from the following areas: art, dance, music, theatre, English (in addition to six credits in ENG 121 and 122), history (in addition to the six-credit history of western civilization requirement), philosophy, speech, and modern language (these credits must be in addition to the six-credit language requirement). This means any courses with ART, DAN, HIS, MUS, THE, PHI, SPE, FRE, SPA (except SPA 124 if Spanish courses were taken to satisfy the language requirement), GER, ITA, AND ENG designations may be used to fulfill this requirement.

Science Requirement

This eight-credit requirement may be fulfilled by one of the two-semester sequences listed below. All require some high school preparation or its equivalent. These requirements are given for each course in the Course Descriptions section of the catalog.

| | |
|-------------------------|-------------|
| Biology I, II | BIO 117-118 |
| General Biology I, II | BIO 123-124 |
| Chemistry I, II | CHM 117-118 |
| General Chemistry I, II | CHM 123-124 |
| General Physics I, II | PHY 121-122 |



The science requirement may also be fulfilled by any two of the following courses:

| | |
|--|---------|
| Environmental Science I | ENV 211 |
| Environmental Science II* | ENV 212 |
| Heredity, Evolution and Society | BIO 105 |
| Human Biology, Biomedical Issues and Society | BIO 106 |
| Introduction to Geology and Oceanography | SCI 155 |
| Introduction to Astronomy* | SCI 156 |

*ENV 212 may be taken before ENV 211, and SCI 156 before SCI 155.

Mathematics Requirement

This six- to eight-credits requirement may be met by one of the following sequences: MAT 101-102, MAT 123-124, MAT 129-131, OR MAT 131-132. The most elementary level is MAT 101-102, which has a prerequisite of at least two years of high school mathematics. Determination of students' appropriate level of mathematics is made on the basis of placement testing. Students who decide to take a higher level mathematics sequence, and who did not pass the algebra portion of the New Jersey College Basic Skills Placement Test, must pass MAT 013 and 014.

Modern Language Requirement

The study of another language is a basic component of a liberal arts education. It broadens the students' world perspectives by introducing them to another culture and by developing an awareness of their own language and cultural identity.

This six-credit requirement must be met with two semesters, in sequence, of the same language. For students who have completed two years of high school study in one modern language, the level of language study will be determined by the placement test and past academic performance. The College will then advise the student either to continue study of the language at an appropriate level or to start a new language. Approval of the Modern Language Department Chairperson is required for credit by examination at all levels.

Physical Education/Health Education Requirement

This requirement may be satisfied with any PED or HED course. If a three-credit course is selected, the extra credits help satisfy the liberal arts elective requirement. In addition, PED and HED courses satisfy free elective requirements.

Social Sciences Requirement

This requirement may be fulfilled with six credits of general education courses marked "GE SS" and found in the following areas: (POS) political science, (PSY) psychology, (SOC) sociology (which includes anthropology), (SSC) social sciences, (ECO) economics. It is recommended that these six credits be chosen from among the following: SOC 123 Anthropology, POS 121 Introductory Government and Politics, PSY 123 Introductory Psychology and a psychology elective, SOC 121 Introduction to Sociology I, SOC 122 Introduction to Sociology II.

Liberal Arts Electives Requirement

This requirement may be fulfilled by following one of the program options described below.

Students may take a combination of one-, two-, and three-credit liberal arts courses to fulfill this requirement, except for those courses which are taken to fulfill the core requirements, including HIS 121, 122, and ENG 121, 122. The one-credit liberal arts courses are MUS 103-104, 109-110 Choral Performance I, II, III, IV, and MUS 203-204, 205-206 Instrumental Ensemble.

Free Electives Requirement

This six-credit requirement may be fulfilled by any credit courses offered by the College.

Total Credits Required

The total number of credits required for the associate in arts degree is 64 to 68. Students taking the four-credit mathematics sequence will have 66 credits upon graduation. Those who take MAT 101-102 or MAT 123-124 will have 64. Students should therefore plan to average 16 credits per semester. Students following the Business Option will have 65 credits.

Liberal Arts Options

Students seeking the associate in arts degree adhere to one of 15 options. The choice of options will affect the way the curriculum requirements are fulfilled, but the basic requirements remain unchanged.

General Option

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | | Credits |
|-------------|-----------------------------------|---------|
| ENG 121 | English Composition I | 3 |
| HIS 121 | History of Western Civilization I | 3 |
| | Social Science Elective | 3 |
| | Modern Language | 3 |
| | Mathematics | 3-4 |
| | Physical/Health Education | 1-3 |
| | <i>Subtotal</i> | 17-19 |

SEMESTER II

| Course Code | | Credits |
|-------------|------------------------------------|---------|
| ENG 122 | English Composition II | 3 |
| HIS 122 | History of Western Civilization II | 3 |
| | Social Science Elective | 3 |
| | Modern Language | 3 |
| | Mathematics | 3-4 |
| | Liberal Arts Elective | 1 |
| | <i>Subtotal</i> | 16-17 |

SEMESTER III

| Course Code | | Credits |
|-------------|------------------------|---------|
| | Laboratory Science | 4 |
| | Humanities Elective | 3 |
| | Liberal Arts Electives | 6 |
| | Free Electives | 3 |
| | <i>Subtotal</i> | 16 |

SEMESTER IV

| Course Code | Credits |
|------------------------|---------|
| Laboratory Science | 4 |
| Humanities Elective | 3 |
| Liberal Arts Electives | 6 |
| Free Electives | 3 |
| <i>Subtotal</i> | 16 |
| TOTAL CREDITS | 64-67 |

Business Option

The plan of study for this option is the same as the liberal arts/general option except for the liberal arts electives taken in the senior year. During SEMESTER III, the student should take ACC 103 Principles of Accounting I and ECO 201 Principles of Economics I. ACC 104 Principles of Accounting II and ECO 202 Principles of Economics II should be taken during SEMESTER IV.

The total number of credits for this option is 65.

The six credits of free electives can be fulfilled from among the courses offered through the Business Division, after consultation with an advisor.

Communication Option

The plan of study for this option is the same as the liberal arts/general option. However, the option in communication requires COM 105 Introduction to Communication Study, COM 121 Mass Communication Study, COM 131 Introduction to Broadcasting, and COM 208 Communication Seminar and Cooperative Education Work Experience or COM 210 Radio Broadcasting Production.

| Required Courses | Credits |
|---|---------|
| COM 105 Introduction to Communication Study | 3 |
| COM 121 Mass Communication Study | 3 |
| COM 131 Introduction to Broadcasting | 3 |

Plus One of the Following:*

| | |
|--|---|
| COM 208 Communication Seminar and Field Experience | 3 |
| COM 210 Radio Broadcasting Production | 3 |

*With permission of the department chairperson, COM 208 or COM 210 may be replaced with a course relevant to the student's special focus in the communication field which will assist the student in transferring to a senior institution in communication. In many instances this other course would be SPE 121 Fundamentals of Public Speaking, SPE 124 Oral Interpretation or ENG 205 Introduction to Journalism.

All students selecting the communication option must complete the "core" requirements for the liberal arts degree program. For further details consult the "LA CURRICULUM GUIDE: DIVISION OF SOCIAL SCIENCES AND HUMANITIES."

English Option

The plan of study for this mini-major option is identical to that of the liberal arts/general option with the following exceptions.

English electives must be chosen from courses numbered ENG 200 or higher. All have a prerequisite of ENG 122 (except 212, which has a prerequisite of ENG 121). In addition, related courses must be completed sequentially. For example, ENG 235 must be taken prior to ENG 236, and ENG 205 must be taken before ENG 206 or ENG 214. The latter prerequisites are normally taken during SEMESTER III.

History Option

The plan of study for this option is the same as the liberal arts/general option with some exceptions. Twelve credits of history should be taken during the senior year, in addition to HIS 121-122 History of Western Civilization I and II taken during the freshman year.

Journalism Option

The plan of study for the journalism option is similar to that of the liberal arts/general option; however, the option in journalism requires ENG 205 and ENG 206, plus two additional 200 level English courses. ENG 214 Journalism/Writing Field Experience and ENG 235 Creative Writing are recommended. POS 201 United States State and Local Government is recommended as a free elective.

Modern Language Option

This program is identical to the liberal arts/general option except that six credits of modern languages are taken during both SEMESTER I and II and three credits during both SEMESTER III AND IV. Twelve of these credits fulfill the mini-major and six, the modern language requirements. The social sciences are taken in SEMESTER III and IV.

Music Option

This program is identical to the liberal arts/general option except for some variations. During SEMESTER I and SEMESTER II, MUS 131-132 Keyboard Studies I and II and MUS 133-134 Applied Music Studio I and II are taken. In addition MUS 103-104 Choral Performance I and II are taken. The social science electives are taken during SEMESTER III and SEMESTER IV, along with MUS 201-202 Music Theory I and II, MUS 123 Music History: Traditional, MUS 124 Music History: Contemporary, and MUS 207-208 Applied Music Studio III and IV. Either MUS 109-110 Choral Performance III and IV are taken at this time as well.

If followed, this program helps fulfill the free electives, humanities, and one-credit liberal arts requirements as well as those of the major.

Physical Education/Recreation Option

This option is similar to the liberal arts/general option except for some variations. A major course should be taken in each semester as outlined below:

| SEMESTER I | Credits |
|----------------------------|---------|
| Course Code | |
| REC 203 Outdoor Recreation | 3 |



| | |
|---|---|
| SEMESTER II | |
| HED 200 Human Sexuality and Family Life | 3 |

| | |
|--|---|
| SEMESTER III | |
| PED 210 Scientific Principles of Conditioning Programs | 3 |

| | |
|----------------------------|---|
| SEMESTER IV | |
| PED 212 Aquatic Management | 3 |

The purpose of this program is to acquaint students with the many different fields open to those interested in sports, athletics and recreation.

Political Science Option

The plan of study for the political science option is similar to the liberal arts/general option. POS 121 Introductory Government and Politics should be taken during SEMESTER I, and POS 220 United States National Government in SEMESTER II. Two of the following courses should be taken in the senior year to complete the area of concentration: POS 201 United States State and Local Government, POS 222 Foreign Governments: A Comparative Analysis or POS 231 Constitutional Law, or a related elective with approval of the History and Social Behavior Department Chairperson. The social science core requirements should be satisfied during the senior year.

Psychology Option

This mini-major follows the Liberal Arts/General option with two exceptions:

- PSY 123 Introductory Psychology and one psychology elective should be taken in the freshman year to satisfy the social science core requirement. Consult with an advisor in the Psychology and Learning Development Department or the Chairperson.
- Twelve credits of additional psychology coursework should be taken during the senior year in consultation with an advisor or the department chairperson.

Social and Rehabilitation Services Option

NOTE: Certain major courses in this option may be offered only through the Division of Continuing Education in the evenings.

| | |
|---|----------------|
| SEMESTER I | |
| <i>Course Code</i> | <i>Credits</i> |
| ENG 121 English Composition I | 3 |
| HIS 121 History of Western Civilization I | 3 |
| Modern Language | 3 |
| Physical/Health Education | 1-3 |
| SOC 121 Introduction to Sociology I | 3 |
| SOC 141 Introduction to Social Work & Social Welfare Policy | 3 |
| <i>Subtotal</i> | 16-18 |

| | |
|--|----------------|
| SEMESTER II | |
| <i>Course Code</i> | <i>Credits</i> |
| ENG 122 English Composition II | 3 |
| HIS 122 History of Western Civilization II | 3 |
| Modern Language | 3 |
| SOC 131 Contemporary Social Problems | 3 |

| | |
|-------------------------|----|
| Social Science Elective | 3 |
| Free Elective | 1 |
| <i>Subtotal</i> | 16 |

| | |
|---|----------------|
| SEMESTER III | |
| <i>Course Code</i> | <i>Credits</i> |
| Laboratory Science | 4 |
| Mathematics Requirement | 3-4 |
| Humanities Elective | 3 |
| PSY 123 Introductory Psychology | 3 |
| SOC 205 Minority Groups in U.S. Society | 3 |
| <i>Subtotal</i> | 16-17 |

| | |
|---|----------------|
| SEMESTER IV | |
| <i>Course Code</i> | <i>Credits</i> |
| Laboratory Science | 4 |
| Mathematics Requirement | 3-4 |
| Humanities Elective | 3 |
| SOC 210 Methods of Social Casework & Counseling | 3 |
| Social Science Elective | 3 |
| <i>Subtotal</i> | 16-17 |
| TOTAL CREDITS | 64-68 |

Social Sciences Option

The plan of study for this option is the same as that for the liberal arts/general option except 12 credits of Liberal Arts electives should have the catalog designations POS, PSY, or SOC.

Sociology Option

The plan of study for this option is the same as that for the liberal arts/general option except that SOC 121-122 Introduction to Sociology I and II should be taken during the freshman year to satisfy the social science core requirement. An additional 12 credits of sociology should be taken during the senior year.

Theatre Option

This program is identical with the liberal arts/general option except that THE 145 Stagecraft and THE 146 Play Production are taken during SEMESTER I and II. THE 123 Theatre History, along with a theatre elective, is taken during SEMESTER III. THE 124 Contemporary Theatre is taken during SEMESTER IV along with a theatre elective. The social sciences are taken during SEMESTER III and IV.

Visual Arts Option

This mini-major is identical to the liberal arts/general program with the following exceptions. ART 145 Art Fundamentals: Two Dimensions is taken in SEMESTER I. ART 146 Art Fundamentals: Three Dimensions is taken in SEMESTER II.

ART 123 Art History: Ancient to Renaissance is taken during SEMESTER III, along with four credits of art electives. ART 124 Art History: Renaissance to Modern is taken during SEMESTER IV, along with four credits of art electives. These eight credits of art electives are chosen from among ART 109-110, 125, 201-202, 219-220, 221-222, and 223-224, and fulfill the humanities elective requirement and two credits of the free elective requirement. The social sciences are taken during SEMESTER III and IV.

EDUCATION TECHNOLOGY

Associate in Applied Science Degree

The Education Technology options are designed and administered by the Psychology and Learning Development Department. These options prepare students for para-professional careers; they are not designed as transfer programs to 4-year colleges.

Graduates who plan to transfer to 4-year colleges are subject to the transfer policy of the receiving colleges which may or may not accept all or part of the credits earned. Consult the department chairperson for current transfer information.

The course of study combines a strong core of general education studies with a maximum of practical experiences in teaching/learning settings. Students are supervised by professionals while working with individuals and small groups. Students help with the preparation of programs and activities by:

- helping with academic subject learning
- caring for physical and emotional needs of children
- supervising children in educational settings.

Three degree options are offered: Assistant in Early Childhood Education, Assistant in Special Education, and Teacher Assistant. A one year Teacher Aide Certificate program is another way for students to become involved in helping children learn.

NOTE: Not all courses are offered in the evening or through the Division of Continuing Education; thus completion of the program depends upon some daytime course enrollment.

Students are strongly advised to verify course prerequisites before enrolling in advanced level courses. Students studying on a part-time basis in the evenings are advised to contact the department chairperson. Applications for full-time admission may be obtained from the Admissions Office, 906-2510.

Assistant in Early Childhood Education Option Sample Two-Year Plan of Study

SEMESTER I

| Course Code | | Credits |
|-------------|-----------------------------|---------|
| ENG 121 | English Composition I | 3 |
| PSY 123 | Introductory Psychology | 3 |
| | or | 3 |
| SOC 121 | Introduction to Sociology I | 3 |
| EDU 121 | Introduction to Education* | 3 |
| MAT | Mathematics Requirement*** | 3 |
| | Physical/Health Education | 1-3 |
| | <i>Subtotal</i> | 13-15 |

SEMESTER II

| Course Code | | Credits |
|-------------|-------------------------|---------|
| ENG 122 | English Composition II | 3 |
| PSY 123 | Introductory Psychology | 3 |
| | or | |

| | | |
|---------|---------------------------------------|-------|
| PSY | Psychology Elective | |
| | or | |
| SOC | Introduction to Sociology I or II | 3 |
| | Science Requirement | 3-4 |
| EDU 126 | Orientation to Educational Practices* | 3 |
| MAT 104 | Mathematics in the Elementary School* | 3 |
| | <i>Subtotal</i> | 15-16 |

SEMESTER III

| Course Code | | Credits |
|-------------|--|---------|
| EDU 207 | Introduction to Early Childhood Education* | 3 |
| EDU 225 | Early Childhood Seminar/Practicum I*+ | 4 |
| EDU 209 | Child Health and Nutrition* | 3 |
| EDU 123 | Fundamentals of Reading Instruction* | 3 |
| PSY 223 | Child Psychology* | 3 |
| | Humanities Elective | 3 |
| | <i>Subtotal</i> | 19 |

SEMESTER IV

| Course Code | | Credits |
|-------------|--|---------|
| ENG 212 | Children's Literature* | 3 |
| EDU 208 | Creative Activities for Young Children* | 3 |
| SOC 224 | Marriage and the Family* | 3 |
| EDU 226 | Early Childhood Seminar/Practicum II*+** | 4 |
| EDU 210 | Education of Exceptional Children* | 3 |
| | <i>Subtotal</i> | 16 |

TOTAL CREDITS 63-66

*Major course

+Prerequisites EDU 121, EDU 126, and approval of the department chairperson. PSY 223 is corequisite.

+**Prerequisite EDU 225 with grade of C or above and approval of the department chairperson.

***For course selection see Liberal Arts math requirements.

NOTE: The department offers a special cooperative field experience for students who are employed and wish to complete Practicum requirements. Please see EDU 227 and EDU 228 Early Childhood Cooperative Supervised Field Experience I, II in Course Descriptions.

Assistant in Special Education Option Sample Two-Year Plan of Study

SEMESTER I

| Course Code | | Credits |
|-------------|----------------------------|---------|
| ENG 121 | English Composition I | 3 |
| PSY 123 | Introductory Psychology | 3 |
| EDU 121 | Introduction to Education* | 3 |
| MAT | Mathematics Requirement*** | 3 |
| | Physical/Health Education | 1-3 |
| | <i>Subtotal</i> | 13-15 |

SEMESTER II

| Course Code | | Credits |
|-------------|---------------------------------------|---------|
| ENG 122 | English Composition II | 3 |
| PSY | Psychology Elective | 3 |
| | or | 3 |
| SOC 121 | Introduction to Sociology I | 3-4 |
| | Science Requirement | 3-4 |
| EDU 126 | Orientation to Educational Practices* | 3 |
| | Humanities Elective | 3 |
| | <i>Subtotal</i> | 15-16 |



SEMESTER III

| Course Code | Credits |
|---|---------|
| EDU 221 Special Education Seminar/Practicum I*+ | 4 |
| PSY 223 Child Psychology* | 3 |
| PSY 227 Psychology of Handicapped* | 3 |
| SOC 205 Minority Groups In U.S. Society* | 3 |
| Approved Elective | 3 |
| <i>Subtotal</i> | 16 |

SEMESTER IV

| Course Code | Credits |
|--|---------|
| EDU 123 Fundamentals of Reading Instruction* | 3 |
| EDU 210 Education of Exceptional Children* | 3 |
| EDU 222 Special Education Seminar/Practicum II*+ | 4 |
| MAT 104 Mathematics in the Elementary School* | 3 |
| PSY 235 Abnormal Psychology* | 3 |
| Approved Elective** | 3 |
| <i>Subtotal</i> | 19 |
| TOTAL CREDITS | 63-66 |

*Major course

+Prerequisites EDU 121, EDU 126, and approval of the department chairperson.

**The following are suggested: SOC 205 Minority Groups, ENG 212 Children's Literature, SOC 223 Social Stratification, EDU 483 Visual and Auditory Aids in Education, and ART 411 Art in the Elementary School.

++Prerequisite EDU 221 with grade of C or above and approval of the department chairperson.

***For course selection see Liberal Arts math requirements.

SEMESTER III

| Course Code | Credits |
|---|---------|
| EDU 123 Fundamentals of Reading Instruction* | 3 |
| EDU 223 Teacher Assistant Seminar/Practicum I*+ | 4 |
| MAT 104 Mathematics in the Elementary School* | 3 |
| PSY 223 Child Psychology* | 3 |
| Approved Elective | 3 |
| <i>Subtotal</i> | 16 |

SEMESTER IV

| Course Code | Credits |
|---|---------|
| EDU 224 Teacher Assistant Seminar/Practicum II*++ | 4 |
| ENG 212 Children's Literature* | 3 |
| EDU 210 Education of Exceptional Children* | 3 |
| Approved Electives** | 9 |
| <i>Subtotal</i> | 19 |
| TOTAL CREDITS | 63-66 |

*Major course

+Prerequisites EDU 121, EDU 126, and approval of the department chairperson.

**The following are suggested: SOC 205 Minority Groups, HIS 121-122 History of Western Civilization I and II, EDU 207 Introduction to Early Childhood Education, EDU 209 Child Health & Nutrition, and SPA 121 Elementary Spanish I.

++Prerequisite EDU 223 with grade of C or above and approval of the department chairperson.

***For course selection see Liberal Arts math requirements.

**Teacher Assistant Option
Sample Two-Year Plan of Study****SEMESTER I**

| Course Code | Credits |
|-------------------------------------|---------|
| ENG 121 English Composition I | 3 |
| PSY 123 Introductory Psychology | 3 |
| or | 3 |
| SOC 121 Introduction to Sociology I | 3 |
| EDU 121 Introduction to Education* | 3 |
| MAT Mathematics Requirement*** | 3 |
| Physical/Health Education | 1-3 |
| <i>Subtotal</i> | 13-15 |

SEMESTER II

| Course Code | Credits |
|---|---------|
| ENG 122 English Composition II | 3 |
| PSY 123 Introductory Psychology | 3 |
| or | |
| PSY Psychology Elective | 3 |
| or | |
| SOC Introduction to Sociology I or II | 3 |
| Science Requirement | 3-4 |
| EDU 126 Orientation to Educational Practices* | 3 |
| Humanities Elective | 3 |
| <i>Subtotal</i> | 15-16 |

TEACHER AIDE**Certificate Program****SEMESTER I**

| Course Code | Credits |
|---|---------|
| ENG 121 English Composition I | 3 |
| EDU 121 Introduction to Education* | 3 |
| EDU 126 Orientation to Educational Practices* | 3 |
| SOC 121 Introduction to Sociology I | 3 |
| PSY 223 Child Psychology | 3 |
| <i>Subtotal</i> | 15 |

SEMESTER II

| Course Code | Credits |
|--|---------|
| EDU 123 Fundamentals of Reading Instruction* | 3 |
| ENG 212 Children's Literature | 3 |
| EDU 223 Teacher Assistant Seminar/Practicum I* | 4 |
| MAT 104 Mathematics in the Elementary School* | 3 |
| EDU Education Elective | 3 |
| <i>Subtotal</i> | 16 |
| TOTAL CREDITS | 31 |

***Education Electives**

| Course Code | Credits |
|---|---------|
| EDU 210 Education of Exceptional Children | 3 |
| EDU 207 Introduction to Early Childhood Education | 3 |
| EDU 209 Child Health & Nutrition | 3 |
| EDU 208 Creative Activities for Young Children | 3 |
| +Prerequisite EDU 121 & EDU 126 | |

CRIMINAL JUSTICE

Associate in Science Degree

Courses taken for this degree will be transferable to four-year programs. The combination of general and specialized education is designed to prepare individuals for transfer to bachelor degree programs. Some students may opt for criminal justice jobs at the end of the two years.

NOTE: Certain major courses in the correction administration program are offered only through the Division of Continuing Education in the evening.

Correction Administration Option

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|--|-----------|
| ENG 121 English Composition I | 3 |
| CJU 123 Criminal Justice I* | 3 |
| POS 201 U.S. State and Local Government* | 3 |
| SOC 121 Introduction to Sociology I | 3 |
| Social Science Elective+++ | 3 |
| Subtotal | 15 |

SEMESTER II

| Course Code | Credits |
|---|-----------|
| ENG 122 English Composition II | 3 |
| CJU 124 Criminal Justice II* | 3 |
| SOC 140 Introduction to Criminology | 3 |
| POS 220 U.S. National Government | 3 |
| PSY 123 Introductory Psychology | 3 |
| CSC 105 Computer Applications & Systems | 3 |
| Subtotal | 18 |

SEMESTER III

| Course Code | Credits |
|------------------------------------|--------------|
| COR 207 Correctional Institutions* | 3 |
| PSY 222 Social Psychology | 3 |
| Mathematics/Science++ | 3-4 |
| Humanities Elective+ | 3 |
| Social Science Elective+++ | 3 |
| Physical/Health Education | 1-3 |
| Subtotal | 16-19 |

SEMESTER IV

| Course Code | Credits |
|--|--------------|
| COR 201 Intro to Corrections Administration* | 3 |
| POS 231 Constitutional Law | |
| or | |
| SOC 225 Juvenile Delinquency | 3 |
| COR 280 Corrections Externship | |
| or | |
| POL 204 Law Enforcement & the Community | 3 |
| Mathematics/Science++ | 3-4 |
| Humanities Elective+ | 3 |
| Subtotal | 15-16 |
| TOTAL CREDITS | 64-68 |

*Major Course

+For course selection, see Liberal Arts Humanities Requirements.

++For course selection and sequence, see Liberal Arts Mathematics/Science Requirements. A sequence requirement in either mathematics or science must be met.

+++For course selection, see Liberal Arts Social Sciences requirements.



POLICE SCIENCE OPTION

Sample Two-Year Plan of Study

SEMESTER I

| Course Code | Credits |
|--|-----------|
| ENG 121 English Composition I | 3 |
| CJU 123 Criminal Justice I* | 3 |
| POS 201 U.S. State and Local Government* | 3 |
| SOC 121 Introduction to Sociology I | 3 |
| Social Science Elective+++ | 3 |
| Subtotal | 15 |

SEMESTER II

| Course Code | Credits |
|---|-----------|
| ENG 122 English Composition II | 3 |
| CJU 124 Criminal Justice II* | 3 |
| SOC 140 Introduction to Criminology | 3 |
| POS 220 U.S. National Government | 3 |
| PSY 123 Introductory Psychology | 3 |
| CSC 105 Computer Applications & Systems | 3 |
| Subtotal | 18 |

SEMESTER III

| Course Code | Credits |
|--|--------------|
| POL 202 Police Operations* | 3 |
| POL 204 Law Enforcement and the Community*++++ | 3 |
| Mathematics/Lab Science++ | 3-4 |
| Humanities Elective+ | 3 |
| Social Science Elective+++ | 3 |
| Physical/Health Education | 1-3 |
| Subtotal | 16-19 |

SEMESTER IV

| Course Code | Credits |
|--------------------------------|--------------|
| POL 201 Police Administration* | 3 |
| PSY 222 Social Psychology++++ | 3 |
| SOC 225 Juvenile Delinquency | |
| or | |
| POS 231 Constitutional Law | 3 |
| Mathematics/Lab Science++ | 3-4 |
| Humanities Elective+ | 3 |
| Subtotal | 15-16 |
| TOTAL CREDITS | 64-68 |

*Major Course

+For course selection, see Liberal Arts Humanities Requirements.

++For course selection and sequence, see Liberal Arts Mathematics/Science Requirements. A sequence requirement in either mathematics or science must be met.

+++For course selection, see Liberal Arts Social Sciences requirements.

++++Students may take PSY 222 in Semester III and POL 204 in Semester IV. Both courses are required for graduation.

CORRECTION ADMINISTRATION

Certificate Program

NOTE: COR 201 and 207 are offered exclusively in the evening.

Required Courses

| <i>Course Code</i> | <i>Credits</i> |
|--|----------------|
| CJU 123 Criminal Justice I | 3 |
| CJU 124 Criminal Justice II | 3 |
| COR 201 Intro to Correction Administration | 3 |
| COR 207 Correctional Institutions | 3 |
| COR 280 Corrections Externship | |
| or | |
| POL 204 Law Enforcement & the Community | 3 |
| ENG 121 English Composition I | 3 |
| ENG 122 English Composition II | 3 |
| POS 201 U.S. State & Local Government | 3 |
| POS 220 U.S. National Government | 3 |
| PSY 123 Introductory Psychology | 3 |
| SOC 121 Introduction to Sociology I | 3 |
| SOC 140 Introduction to Criminology | 3 |
| TOTAL CREDITS | 36 |

The Center for International Education

The Center offers a unique certificate program in International Trade for individuals who have not had any previous training in international trade and who wish to start a career in international trade or start their own international business.

This program is designed to give participants the appropriate background in the field of International Trade. Specialization in this field prepares participants for lower management positions in international trade or export-import positions.

The non-degree certificate program requires the completion of five core courses. After successful completion of the specified course of study outlined by the department, a certificate will be awarded to the participant.

The Center also offers a special program in a Pueblo Indian Village in New Mexico and Study Abroad Programs in England, France, Germany, Hungary, Ireland, and Spain. The Study Abroad Programs offer students the opportunity of studying alongside international students where they can expand their cultural knowledge and learn more about themselves as they are immersed in an exciting new cultural environment. Or, students can have the unique opportunity to live on an Indian Reservation in Santa Fe, New Mexico. By participating in one of the programs, students will be able to gain the kind of growth which is available through travel.

These prestigious Study and Travel Programs offer an invaluable opportunity for college students, alumni, educators as well as above average high school students and other, non-traditional students to learn more about the social, cultural, political, historical and educational aspects of people in other cultures.

Program costs include: round trip air fare from New York/Newark to any of the program locations, room and board in university dormitories, tuition for up to six college credits, activities consisting of sightseeing, performances, lectures, tours to nearby cities, etc.

For information regarding costs and detailed itineraries, call (908) 906-2529.

Intensive English As A Second Language Program

This program allows students whose native language is not English to study English full-time at a beginning, intermediate or advanced level during the day. Students can study 14 to 17 hours per week including two hours in the ESL lab. Students may obtain I-20's to study in this program and are admitted as full-time students to the College. After fully completing the ESL program, students who so desire move directly into an Associate Degree program. Those who do not want to study English on a full-time basis may participate in this program as part-time students.

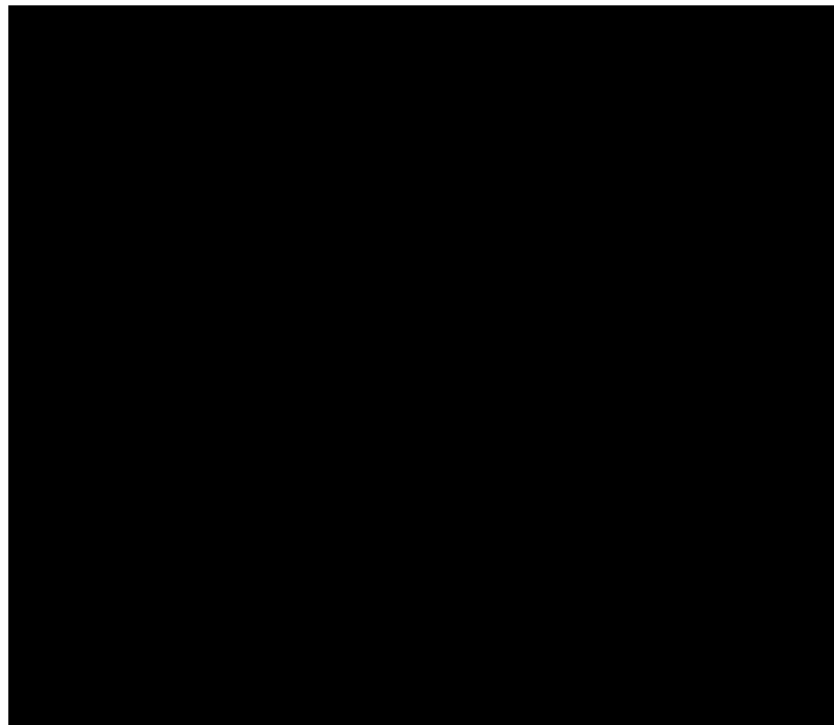
The Center for the Study of Prejudice, Genocide, and the Holocaust

Recognizing the negative and deleterious impact prejudice and discrimination have on people and society, the Board of Trustees authorized the establishment of the Center for the Study of Prejudice, Genocide, and the Holocaust. Through a variety of academic programs and courses, the Center seeks to promote understanding and respect for people of diverse backgrounds and cultures.

Summer Study-Abroad Program

The summer study-abroad program allows students to earn college-credit while studying at Middlesex University in London, England, and at the Picuris Indian Reservation in New Mexico. The London program offers, English Literature, History, Contemporary Theater and Sociology courses. The New Mexico program offers courses in Anthropology. An opportunity to study during the summer in France or Spain is also available through cooperative arrangements with other colleges.

DIVISION OF STUDENT SERVICES



The Division of Student Services assists students in selecting their programs of study, while the financial aid program assures that eligible students receive financial support to pay educational expenses. Divisional programs provide students with extracurricular activities and personal counseling that make their college experiences more complete, as well as more successful. The Division's counseling, activities, athletics, and health services programs foster personal development.

The Minority Student Affairs Office offers mentoring and academic support programs for minority students. The Educational Opportunity Fund Program provides in-depth educational and financial assistance to eligible students. Cooperative Education provides students an opportunity to earn while learning.

Student schedules, grade reports, academic transcripts and other information regarding student progress and development are distributed through the Division's registration and records system.

Students who have met their educational objectives are assisted with job placement in area businesses and industry, or with transfer to an upper division college or university.

DIANA MICHELLE GOFFE, *Professor and Dean*

DIVISION STAFF

Admissions and Recruitment

Director: Diane Lemcoe

Admissions Counselors: Claudine Bowers, *Assistant Instructor*; Desiree Brower, *Instructor*; Arnold Hence, *Associate Professor*; and Maria Lopez, *Assistant Instructor*



Athletics & Physical Education Center

Director: Robert Zifchak, *Professor*

Assistant Director: Ilene Cohen

Building Supervisor: Robert Edmonds

Cooperative Education

Director: Lloyd Kalugin, *Professor*

Counseling and Placement Services

Director: John R. Herrling, *Professor*

Counselors: Kevin Dohrenwend and Kenneth Maugle, *Professors*; Zoraida Calvo-Scott and Carol Taha, *Associate Professors*; Leslie Carter, Ann Houpt, Naomi Karetnick and Elaine Weir, *Assistant Professors*

Educational Opportunity Fund

Director: Fannie Gordon, *Associate Professor*

Counselors: Gertrude Harris, *Assistant Professor*; Victor Vega, *Instructor*

Financial Aid

Associate Director: Gail Scott-Bey

Financial Aid Officers: Wil Casaine and Michele Menditto

Health Services

Coordinator: Elaine Austin

Minority Student Affairs

Director: John Dunning

Registrar's Office

Registrar: Suzanne M. Dennis

Associate Registrars: Edwin Griffith, *Assistant Professor* and Klea S. Hartman

Assistant Registrars: Robert Buzard, *Assistant Professor* and John Ramirez

Student Activities and College Center

Director: Terry McGlincy, *Associate Professor*

Assistant Directors: Patricia Daly and Audrey Davis

For information about the programs and services provided by the following departments, turn to the referenced sections in this catalog:

Admissions and Recruitment, pp. 9-11

Athletics and Physical Education Center, pp. 19-20

Cooperative Education, pp. 20-21

Counseling and Placement Services, pp. 21-22

Educational Opportunity Fund, p. 22

Financial Aid, pp. 15-16

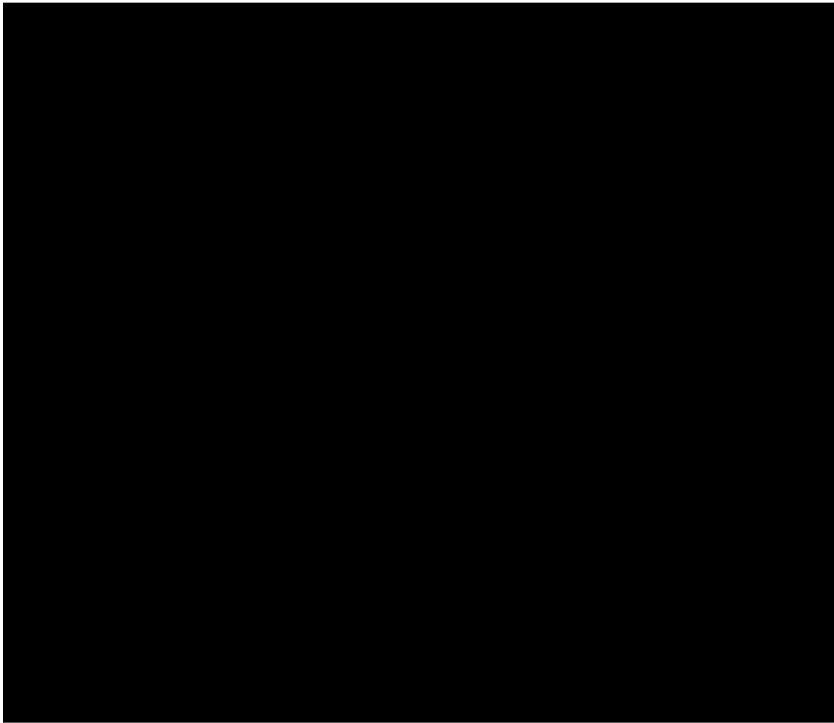
Health Services, p. 22

Minority Student Affairs, p. 23

Registrar's Office, p. 17

Student Activities and College Center, p. 23

DIVISION OF CONTINUING EDUCATION AND INSTRUCTIONAL RESOURCES



The Division of Continuing Education and Instructional Resources enrolls full- and part-time students in a wide variety of degree and certificate offerings as well as in exploratory and developmental programs. The Division administers the College's evening and week-end programs, off-campus centers, and independent study. In addition, a broad spectrum of non-credit offerings for personal and professional development are presented through the Community Education Department.

The Division also offers a variety of instructional services to the entire campus community, including the library, media services, testing, tutoring, advising and child care.

WARREN KELEMEN, *Professor and Dean*

DIVISION STAFF

Community Education

Director of Child Care Center:

Adrienne Smith

Director of Community Programs:

Marilyn Kirby

Director of Career and Funded Programs:

Victoria Payne

Director of New Brunswick Center:

William Davis

Director of Perth Amboy Center:

Maria Mora

Continuing Studies

Director: Barbara L. Greene, *Professor*

Learning Resources

Director: Abigail Studdiford

Client Services Librarian: David A.

Crampton, *Assistant Professor*

Technical Services Librarian: Lynn S. Davis,
Professor

Instructors: Elisabeth Oliu and Andre Gitten

Open College Program/ Academic Advising Center/ Tutoring Center

Director: Dorothy E. Loper, *Assistant
Professor*

Assistant Director: Ellen S. Thomas

Testing Services

Director: Nancy Bruno

For information about the programs and services provided by the following departments, turn to the referenced sections in this catalog:

Learning Resources, pp. 18-19

**Open College Program/Academic Advising
Center/Learning Assistance Lab, pp. 18-19**

Testing Services, p. 24

Community Education

The Department of Community Education draws from the wealth of skills, talent, and knowledge in the College and the community to promote the educational growth of individuals, putting into action the concept that learning is a life-long process.

In fulfilling its mission, Community Education begins where traditional college programs leave off. Credit-free classes are held at times convenient for mature persons, who, because of job, family, or financial responsibilities, cannot fit their schedule into traditional college patterns. To accommodate this adult student population, classes are held in the evening, on weekends, and during convenient daytime hours. Both on-campus and off-campus sites are provided to make it easier for individuals to pursue educational objectives.

For the Community-at-Large

Mini-courses are credit-free classes that address general interests, issues, and professional needs of the public. Classes are open to everyone regardless of educational background and typically have no prerequisites, grades, or examinations. These courses are offered in such areas as basic skills; career skills; international studies; hobbies and recreation; personal improvement; computers; career and self exploration; recreation and physical fitness; business, labor and industry; and music, visual, and performing arts.

Cultural Activities include professional theater, dance, the Children's Theatre Series, mini-courses in creative, visual and performing arts, creative arts and professional writing workshops. All add variety and enrichment to the College's community education program.

Non-credit Certificate Programs are offered in travel and tourism and international trade.

For Young People

Activities range from foreign language camps for kids to professional children's theatre to preparation for Scholastic Aptitude Tests for high school students, and include summer arts workshops, films, mini-courses, and summer sports camps in basketball, wrestling, tennis, baseball, soccer, softball, and diving. A summer day camp program is available for children aged 8-15.

The Summer In The Technologies program introduces high school age youth to career opportunities and provides hands-on experience in a variety of career areas.

Other enrichment programs for grades 3-12 are available in such areas as computers, math, science, art, technology and other fields of current interest.

The New Brunswick Center

The New Brunswick Center designed to serve unemployed

and underemployed residents of Middlesex County was opened in New Brunswick in April, 1980. It was established through the efforts of New Brunswick Tomorrow, the city's redevelopment organization, aided by an advisory committee composed of representatives from government, business, industry, and community groups. The Center provides testing, assessment, counseling, technical training, basic skills, and job referral services.

The Center is the site for both credit and non-credit course offerings as well as programs of the Career Skills Training Center (see below). The courses are scheduled at convenient times and cover a wide range of interests and needs. Community and business input is always welcome and will be used to develop future course offerings.

The Center also provides a site for cosponsored programs with the Service Corps of Retired Executives (S.C.O.R.E.). S.C.O.R.E. provides free counseling and information to those wishing to start a small business, improve a going business, or learn how to run a business. S.C.O.R.E. volunteers can provide clients with information based on such diverse business backgrounds as marketing, accounting, general management, personnel, and finance. Each S.C.O.R.E. volunteer has many years experience from his/her own business or high level appointments in major corporations.

The Center is located at 317 George Street, Plaza Two; Phone, (908) 249-6207.

The Perth Amboy Center

(El Centro de Perth Amboy)

The Perth Amboy Center offers programs which promote a comprehensive approach to basic skills development and job preparation. The Center is now a site for both credit and non-credit course offerings of the College, as well as programs of the Career Training Skills Center (see below).

Academic offerings include a full range of English As A Second Language courses; basic skills courses in reading, writing and math; and college credit courses in liberal arts, business and computers. Comprehensive career counseling, advising, and financial aid services are provided days and evenings.

These programs are offered in English and/or Spanish. Child care services for children 2¹/₂ to 5 years of age are available during day hours.

The Center is located at 133 New Brunswick Avenue; Phone (908) 324-0700.

Career Skills Training Center

The Center provides employment oriented adults with a comprehensive education and skill training plan including aptitude and skill assessment, career advisement, basic skills development programs, short term vocational

training programs, educational advancement opportunities, and job placement.

The vocational skills training range from eight weeks to six months in duration. Both full-time day and part-time evening programs are available. Many are established with the support of the Job Training Partnership Act (JTPA) in response to the current job market demands. Most programs are open-entry, open-exit, with students beginning as their own schedules permit. All instruction is individualized.

Upon training completion and job placement, it may also be possible to pursue an academic plan of study on a part-time basis using evaluation of training to earn college credits.

All vocational skills training programs provide an employment preparation component in which students learn resume preparation, interview skills, and personal and professional etiquette related to seeking employment. Comprehensive job placement services ensure that those who successfully complete their training programs are provided with specific employment opportunities suited to their newly developed skills.

Programs are offered on the main campus in Edison, at the New Brunswick Career Preparation Center, and the Perth Amboy Community Career Center and include: Automated Accounts Clerk, Specialized Office Skills, Office/Bookkeeping Assistant, Computer Applications, and Basic Skills/ESL Functional Literacy.

Life Skills and Job Search

Life Skills is a short-term program designed to meet the personal developmental needs of the REACH clientele in order to best prepare them to be successful in a job skill training program. Participants are provided with activities to improve their skills in parenting, communications, self-esteem, decision-making, time management, personal finance and job survival skills.

Job Search is designed to meet the job placement needs of REACH participants. Employment opportunities are presented with the objective of finding a career, not just short-term employment. Students are provided with instruction in job search activities. The programs are offered at both the New Brunswick and Perth Amboy Centers.

Older Adults - Project RESOURCES

Project RESOURCES offers participants innovative educational and training opportunities and focuses on individualized approaches to job placement. Pre-retirement workshops are offered to area employers for their employees. The workshop explores the options, realities, expectations and community resources available to those considering retirement.

Project S.P.A.N.

The Supportive Parent Aide Network (SPAN) is a unique community volunteer program that provides a wide range of supportive services to families who are caught up in problematic situations or situations where there are varying degrees of existing or potential cases of abuse and/or neglect.

By placing trained adult volunteers in contact with these families, SPAN offers, on a one-to-one basis, practical guidance, information, counseling, and emotional support.

SPAN volunteers are first carefully trained in the dynamics of abusive families, parenting skills, early childhood development, crisis intervention, and community resources. They are then assigned to a family who has consented to accept a SPAN volunteer. Great care is taken to match the right volunteer with the right family. Under this professional supervision, the SPAN volunteer becomes an integral part of the community effort to prevent child abuse. To participate or receive more information, call (908) 906-2553.

Continuing Studies

Evening and Weekend

The Department offers over 400 classes each semester, evenings and weekends. There are two 14-week semesters, September through December and January through May with classes scheduled one or two evenings a week and weekends. These semesters coincide with those scheduled for day students in the fall and spring. In addition, there is a variety of special sessions described below.

Summer

The Department offers one of the largest summer programs in the State. The program is composed of eight different major sessions: Three 4-week day sessions, two 6-week day sessions, one 5-week evening session, one 7-week evening session all covering various parts of the summer months and a full-length 13-week evening session.

Wintersession

In January, there is a concentrated 3-week session. A limited schedule of classes runs five mornings a week. This mini-semester allows students to earn three credits without increasing their regular semester course load, to fulfill a prerequisite for a course they wish to take in the spring or to repeat a fall course to improve their grade.

Off-Campus Centers

In order to serve as many residents of the Middlesex County community as possible, the College offers credit courses through a network of public adult schools and corporations. During the past academic year, over 3,000 individual student registrations were accepted for courses offered in 20 different locations. Some of these centers are located in adult schools and corporations in

East Brunswick, Iselin, New Brunswick, North Brunswick, Old Bridge, Perth Amboy, Piscataway, Plainsboro, Sayreville, South Brunswick, Spotswood and Woodbridge.

Corporate College

Through the Corporate College, MCC offers its academic programs for employees on company premises. Over the past 12 years, this program has grown into a network of on site instruction in business, management, accounting and related fields. Each year, more than 300 students participate in the program at an average of 7 corporate sites.

Classes are scheduled to complement the workday. Support services such as academic advisement, placement testing and registration can be provided on-site as well.

Independent Study Program

The College offers independent study in English composition and American literature. The Independent Study Program is designed to provide a flexible approach toward college instruction. The goal of the program is to meet the needs of highly motivated, self-directed learners who wish to determine their own pace of instruction. Students have 18 weeks to complete the course requirements.

Course components include a textbook, study guide and other support material. An instructor is available during regularly scheduled consultation hours for in-person or telephone communication. Assignments may also be transmitted by mail.

High School Participation Program

Any high school students who have completed the sophomore year may take college credit courses for which they have completed the prerequisites, or developmental courses with the recommendation of the high school guidance counselor. In addition, students below the eleventh grade level may take college courses with the recommendation of the high school guidance counselor based on superior academic ability and emotional maturity.

Students may attend classes on the Middlesex County College campus or at one of the adult school locations. Where there is sufficient interest, courses are offered on the school premises at hours convenient to the regular class schedule.

During the fall and spring semesters, students pay only a \$50.00 application fee and are limited to one course. High school students choosing to take summer courses pay the regular tuition and fees.

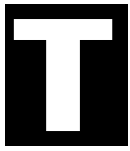
Open College

In addition to its associate degree and certificate curriculums, the College provides students the opportunity to enroll on a full-time basis through the Open College Program. The Open College is intended to serve two types of students. The first are students who want to "try out" an individualized academic program prior to formally enrolling in a degree or certificate program. The second are students who need a measure of developmental work prior to starting a curriculum. Students in the first category will enroll in open plans of study, while students in the second category will enroll in developmental plans of study.

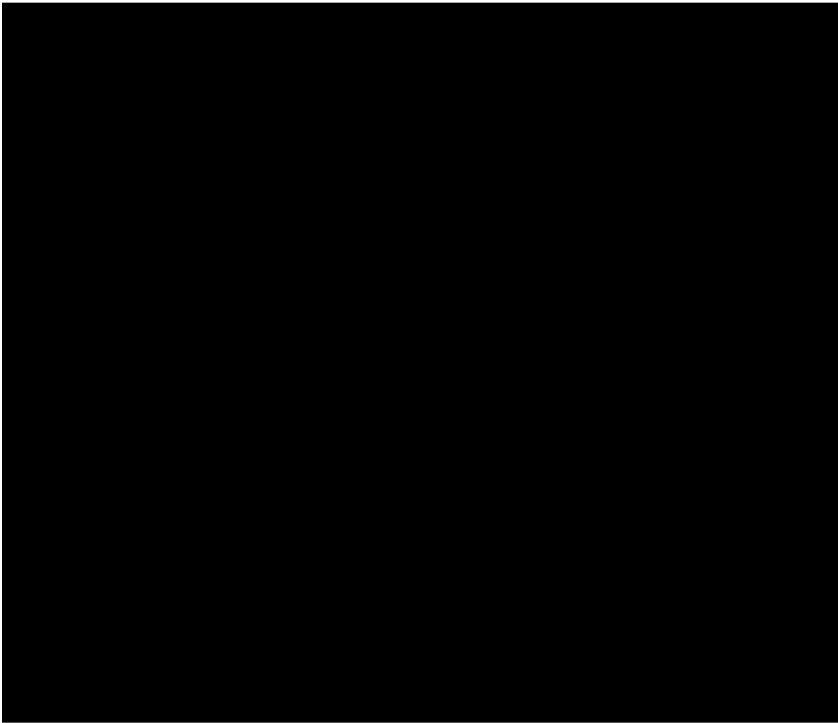
Substantial counseling and advisement are the essential elements of the Open College. Students enrolling in the Open College will develop, in conjunction with an advisor, a plan of study tailored to the individual's educational needs. In order to assist Open College students in assessing and developing their educational goals and abilities, testing and counseling services, as well as a wide selection of developmental courses, will be made available to them.

Students are scheduled for an interview at which the various alternatives available, as well as the conditions and restraints governing the Open College, are explained in detail.

Students who begin a developmental plan of study in the Fall semester are assured a place in their curriculum goal the following Fall semester, provided all prerequisite courses are successfully completed, and provided that the curriculum goal is not a program with selective admissions criteria.



THE INSTITUTE FOR MANAGEMENT AND TECHNICAL DEVELOPMENT



The Institute for Management and Technical Development offers a full range of management development, technical and support staff training for business and industry in Middlesex County. Programs are available on an open enrollment basis or can be customized for the specific needs of an organization.

Mary Ann Conners, *Director*

INSTITUTE STAFF

Customized Training: Ann Gilbert and Priscilla Walsh
Seminars: Lynn Lederer

The Institute for Management and Technical Development: Customized Training, Technical Services Center

The Institute's customized training department, located on-campus at the Technical Services Center, provides management development, support staff and technical training for business in Middlesex County. Institute staff work with company representatives to identify needs and provide quality training that is flexible and cost-effective. The Institute has developed a variety of training initiatives to respond to client needs.

For information on customized training call The Institute at:

The Technical Center
Middlesex County College
Edison, NJ 08818
(908) 906-4681

The Institute for Management and Technical Development: Public Seminars, Raritan Center

The Institute offers a wide variety of professional training and development seminars that meet the ever changing needs of business, government and the public sector of Middlesex County. These non-credit seminars are geared for working men and women who wish to enhance their current position and to increase opportunities for advancement. Seminars are developed with business applications in mind and are taught by professionals who are keenly aware of what is necessary to perform the job more effectively. Class sizes are limited, allowing plenty of interaction with the instructor, and courses are scheduled at flexible times: evenings, Saturdays and weekdays.

For information on the current course schedule contact The Institute at:

98 Northfield Avenue
Edison, NJ 08837
(908) 417-0690



COURSE DESCRIPTIONS

The course descriptions on the following pages are listed alphabetically by subject area. The three letters identify the subject area and are followed by three numbers which identify the course. The numbers in parentheses indicate the number of lecture and lab hours, respectively, scheduled per week in a typical 14 week semester. By adding the numbers, students can determine the number of contact hours required per week for each course. (NOTE: Courses will meet for more hours per week in a short session such as is scheduled in the summer.)

The number of credits is used to calculate tuition and fees, to determine credit load and full-time/part-time status, and is the normal academic measure to monitor progress toward the requirements for a degree. Courses listed as "credit equivalent" do not count towards the degree requirements and are used solely for the calculation of charges. However, the courses do present program requirements for many students based upon past academic performance and/or the results of the New Jersey College Basic Skills Placement Test.

Prerequisites are courses or other requirements which must be satisfied before enrolling in a course. Corequisites may be satisfied prior to enrollment or may be taken at the same time. The italicized information included at the end of some course descriptions is advisory and is designed to assist students in the selection of courses.

Courses that satisfy any of the General Education requirements are coded as follows:

- GE COM Communications
- GE CSC Computer Science
- GE HUM Humanities
- GE MAT Mathematics
- GE PED Physical Education/Health
- GE SCI Nature Sciences
- GE SS Social Sciences

Courses coded GE HUM satisfy the humanities elective requirement, and those coded GE SS satisfy the social sciences elective requirement.

All courses coded GE PED satisfy both the Physical Education/Health Graduation Requirement and the General Education elective requirement included in some programs. Activity courses listed under "PED" satisfy Physical Education/Health Education Graduation Requirement, but not the General Education Requirement.

To determine which courses satisfy the computer science, mathematics, and natural science requirements for a particular degree program, refer to the section in this catalog on Degree Requirements and also the Plan of Study for the specific degree or certificate in the appropriate Division. Not all programs require computer science, mathematics, and natural science courses.

The General Education requirement in communications is also specified in the individual program outlines included in this catalog.

In programs that include a "General Education Elective", any course with a "GE" designation may be used to satisfy that requirement, regardless of the General Education category.

ACCOUNTING

ACC 101 FINANCIAL ACCOUNTING 4 credits (4-0)

The accounting cycle from the recording and analyzing procedures through the summarizing procedures and preparation of general purpose financial statements; the introduction of accounting for partnerships and corporations with emphasis on the capital structure of the corporation; the statement of cash flows.

ACC 102 MANAGERIAL ACCOUNTING 4 credits (4-0)

Prerequisite: ACC 101
Covers the nature of Managerial Accounting, job order cost systems, process cost systems, cost allocation and activity-based costing; analysis for managerial decision making; budgeting, standard cost systems, accounting for decentralized operations; transfer pricing and financial statement analysis.

ACC 108 ACCOUNTING PRACTICES FOR HOTELS, RESTAURANTS, AND INSTITUTIONS 4 credits (4-0)

Basic concepts and techniques of accounting principles as applied to the public hospitality industry. Emphasizes internal control, departmental reports, and operating statistics.

ACC 202 COST ACCOUNTING 4 credits (4-0)

Prerequisite: ACC 102
Instruction in the principles of cost accounting and the keeping of cost records. Job order, process, standard cost systems and a survey of other costing techniques and applications.

ACC 203 ACCOUNTING SYSTEMS AND PROCESSES 3 credits (3-0)

Prerequisite: ACC 102
Students design and install an accounting system tailored to the requirements of a particular business and available automatic data processing equipment. Commences with an analytical approach to the problem and proceeds through the theoretical knowledge required for the actual design of procedures.

ACC 206 TAX ACCOUNTING 3 credits (3-0)

Prerequisite: ACC 102
Federal income tax laws, rules, and regulations with particular emphasis on their application to individuals. Instruction and practice in the preparation of tax returns of individuals and research and reporting tax problems.

ACC 208 ACCOUNTING FIELD EXPERIENCE 3 credits (1-12)

Prerequisite: ACC 202 and 211
A cooperative work experience program whereby students are employed in an accounting position to gain the practical experience necessary for success in accounting. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their position in order to effect the attainment of specific job competencies. Students attend a weekly one-hour seminar on campus and work a minimum of 180 hours a semester. *Individuals must be recommended by the faculty of the department.*

ACC 211 INTERMEDIATE ACCOUNTING I 4 credits (4-0)

Prerequisite: ACC 102
A review of the accounting cycle for a manufacturing and for a merchandise operation. Emphasizes the capital structure of the corporation and the theory and concepts underlying accounts such as cash, receivables, inventories and investments.

ACC 212 INTERMEDIATE ACCOUNTING II 4 credits (4-0)

Prerequisite: ACC 211
A continuation of ACC 211. Concludes the theoretical study of the major accounts on the financial statements. Emphasizes the analytical process relevant to comparative, analysis, application of funds, income tax allocation and price-level impact on financial statements.

ACC 280 SENIOR ACCOUNTING SEMINAR 3 credits (3-0)

Prerequisites: BUS 107, BUS 202, ACC 202, ACC 211
Corequisite: ACC 212
Students integrate their knowledge of theoretical concepts and practical application of intermediate and cost accounting, business law and use of computers through case analysis and the completion of assigned projects.

AFRICAN AMERICAN STUDIES

AFS 121 INTRODUCTION TO AFRICAN AMERICAN STUDIES 3 credits (3-0)

An introduction to the field. The history, philosophic and pedagogical basis, methodology, and relevance of African American Studies within a liberal arts education.



AFS 201
AFRICAN DIASPORA IN LATIN AMERICA
3 credits (3-0)

Examines comparatively the origin and development of the African Diaspora in colonial Spanish societies. The Spanish Slavocracy is examined within the context of African phenomenon and cultural continuity. Aspects of the African Diaspora in South American, Central American and Caribbean geographies (e.g. Cuba, Puerto Rico, Panama, Mexico, Peru, Colombia, Venezuela) will be analyzed with respect to social, cultural, political, economic, religious, psychological and moral content.

ADVERTISING GRAPHICS DESIGN

(For related courses see *Marketing Art and Design*)

AGD 203
LAYOUT DESIGN AND TYPOGRAPHY I
2 credits (1-2)

Prerequisites: MAD 105, 108, and 112; ART 103
Covers principles and applications of advertising layout, including: type identification, type measurements (point system), type specification and copy fitting. Computer graphics are stressed within the projects.

AGD 204
LAYOUT DESIGN AND TYPOGRAPHY II
2 credits (1-2)

Prerequisite: AGD 203
Corequisites: AGD 212 and AGD 216
The relationship and integration of typography using layout design and composition with computers as an interdisciplinary learning device.

AGD 209
PORTFOLIO PROJECT
(Advertising Graphics Design)
2 credits (1-3)

Prerequisites: All foundation first-year courses or permission of department chairperson and AGD 203, 211, 215; MKT 201 or MKT 203
Corequisites: AGD 204, 212, 216
Students select a comprehensive project and are guided in the methods and techniques for best presenting their work. Student work will be critiqued by professional advisors. Considerable research work is expected.

AGD 211
ADVERTISING DESIGN I
2 credits (1-2)

Prerequisites: MAD 105, 108, 112, and 117; ART 103
Applications of design fundamentals to practical layout and advertising design problems, such as brochures, booklets, posters, magazine ads, and audio-visual materials. Use of various commercial art techniques acceptable to all advertising media.

AGD 212
ADVERTISING DESIGN II
2 credits (1-2)

Prerequisites: AGD 211
Corequisites: AGD 204 and 216
Advanced study of specialized advertising graphic design problems, including packaging, point of sale display, spot illustration and trademarks. Professional presentation of thumbnail sketches, roughs, visuals, comprehensive and finished art.

AGD 215
ADVERTISING PRODUCTION I
2 credits (1-2)

Prerequisites: AGD 212, MAD 105 and 108; ART 103
Corequisites: AGD 203, 211 and 212
Mechanical aspects of the graphic arts processes emphasizing the need to prepare artwork, type and photographs in the ways that will best utilize particular methods of reproduction. Commercial methods of color separation, reproduction, engraving and printing are compared and analyzed. Field trips are taken to printers, lithographers, photoengravers, typesetters, among other producers of graphics.

AGD 216
ADVERTISING PRODUCTION II
2 credits (1-2)

Prerequisite: AGD 215
Corequisite: AGD 204 and 212
The processes and procedures of graphics reproduction including laboratory work or demonstrations covering process camera photography, stripping, platemaking, and printing by offset lithography. Estimating, quantity and quality control, trade vocabulary, and business procedures in the graphics arts.

AGD 222
MARKETING ART AND DESIGN
FIELD EXPERIENCE
3 credits (1-12)

Prerequisite: Senior status in advertising graphics design option or professional commercial photography option
A cooperative work experience program whereby students are provided with a job that will enhance their competency by getting practical hands-on experience on state-of-the-art technology utilized by commercial designers and photographers. Students are assigned to work on a one-to-one basis with a professional designer or photographer using the latest techniques and equipment. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their position in order to attainment specific job competencies. Students attend a weekly, one-hour seminar on campus and work a minimum of 180 hours during the semester. Open to senior students recommended by the faculty of the department. Career interest, and goals taken into account. *Marketing Art and Design Field Experience is not a graduation requirement.*

ART

(For related courses, see *Marketing Art and Design*)

ART 103
ART IN INDUSTRY AND COMMERCE
2 credits (2-0)

The relationship of visual arts to modern business and industry covering industrial design, packaging design, advertising, and sales promotion, as well as the influences of fine arts on the development of commercial art and design.

ART 105 **GE HUM**
INTRODUCTION TO ART
3 credits (3-0)

A combination lecture and studio course designed to increase appreciation of art through experimentation with materials in a variety of media. Includes exploration of elementary two-and-three-dimensional problems in design. Field trips.

ART 109 **GE HUM**
DRAWING
3 credits (3-0)

A workshop and lecture course exploring media, concepts and techniques of drawing. Skill in representing objects, landscape, human and imaginative form is approached through practice and the examination of the works of previous and present day artists. Individual criticism aimed at personal growth of artistic ability and insight. Outside assignments to be reviewed by instructor. Field trips.

ART 110 **GE HUM**
FIGURE DRAWING (Formerly Drawing II)
3 credits (3-0)

Practice combining nature and the imagination is directed toward exploring form and developing the basic techniques of figure drawing. Field trips.

ART 123 **GE HUM**
ART HISTORY: ANCIENT TO RENAISSANCE
3 credits (3-0)

Developments in painting, sculpture and architecture from prehistory to the High Renaissance in Western art. Significant periods emphasized through slides and films. Field trips.

ART 124 **GE HUM**
ART HISTORY: RENAISSANCE TO MODERN
3 credits (3-0)

Developments in painting, sculpture and architecture from the High Renaissance to the twentieth century in Western art. Significant artists and their contributions to techniques. Field trips.

ART 125 **GE HUM**
ART HISTORY: MODERN AND CONTEMPORARY
3 credits (3-0)

Examines developments in painting, sculpture and architecture in Western Art since the Industrial Revolution to the present day via major styles, movements and significant artists. Field trips.

ART 145 **GE HUM**
ART FUNDAMENTALS: TWO DIMENSIONS
3 credits (2-2)

A studio course to explore two-dimensional concepts and develop visual thinking in relation to various fine arts areas such as drawing and painting. Open to non-art majors as an elective. *Required of art majors.*

ART 146 **GE HUM**
ART FUNDAMENTALS: THREE DIMENSIONS
3 credits (2-2)

Prerequisite: ART 145
A studio course to explore three-dimensional design concepts and develop visual thinking in relation to various fine arts areas such as sculpture and ceramics. Mixed media - the interaction of two- and three-dimensional concepts is explored. Open to non-art majors as an elective. *Required of art majors.*

ART 170 **GE HUM**
ART HISTORY: ANCIENT TO RENAISSANCE (HONORS)
3 credits (3-0)

Prerequisite: Admission to Honor's Program or by permission of Honor's Coordinator
Developments in painting, sculpture and architecture from prehistory to the High Renaissance in Western Art. Significant periods emphasized through slides and films. Field trips.

ART 171 **GE HUM**
ART HISTORY: RENAISSANCE TO MODERN (HONORS)

Prerequisite: Admission to Honor's Program or by permission of Honor's Coordinator
Developments in painting, sculpture and architecture from the High Renaissance to the twentieth century in Western Art. Significant artists and their contributions to techniques. Field trips.

ART 201 **GE HUM**
CERAMICS I
3 credits (0-3)

Experience in the various hand-building and decorating techniques as well as some experience in the process of stacking and firing the kiln. Field trips.

ART 202 **GE HUM**
CERAMICS II
3 credits (0-3)

Prerequisite: ART 201
Basic skill is developed in the use of the potter's wheel. Study of glaze materials and use of original glaze texts. Field trips.

**ART 205
ADVANCED GLAZE TECHNIQUES
3 credits (0-3)**

Prerequisite: ART 202 or demonstrated throwing ability
Glaze techniques including engobe decoration, wax resist, lustres, overglaze and raku. Thrown forms are used to experiment with various techniques. Slides, lectures and a museum visit will supplement the weekly demonstrations. Critiques will enable students to develop both their work and critical facilities.

**ART 219
PRINTMAKING I
3 credits (0-3)** **GE HUM**

Introductory printmaking is explored through the practice of traditional and experimental graphic techniques including the relief processes of woodcut, linocut, monoprint and collograph. Technical control, basic pictorial concepts and an awareness of the cultural application of printmaking are emphasized. Materials fee and field trip are required.

**ART 220
PRINTMAKING II
3 credits (0-3)** **GE HUM**

Prerequisite: ART 219
Printmaking techniques of screen printing, lithography and intaglio are practiced with development of one area in depth. Applying expressive individual images to the print medium is emphasized. Materials fee and field trip are required.

**ART 221
PAINTING I
3 credits (0-3)** **GE HUM**

A studio course on the language, techniques and materials of painting. Slides, films and field trips.

**ART 222
PAINTING II
3 credits (0-3)** **GE HUM**

Prerequisite: ART 221
Further practice in solving problems of pictorial composition. Development of proficiency in handling media. Experimental techniques incorporating individual idiom.

**ART 223
SCULPTURE I
3 credits (0-3)** **GE HUM**

A studio course on the basic elements of sculptural form through the handling of materials (clay, wood, plastics, etc.) and employing the processes of modeling, carving and constructing. Slides, films and field trips.

**ART 224
SCULPTURE II
3 credits (0-3)** **GE HUM**

Prerequisite: ART 223
Further experience with techniques and materials employed in the creation of three-dimensional forms. Directed research in development of individual idiom. Slides, films and field trips.

AUTOMOTIVE TECHNOLOGY

**AUT 108
AUTOMOTIVE TECHNOLOGY
WORK EXPERIENCE I
3 credits (1-12)**

Prerequisites: AUT 111, 115 and 117
A cooperative work experience program employing students in a technical position in order to gain practical experience necessary for success in the automotive service industry. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their position in order to effect the attainment of specific job competencies. Students attend a weekly seminar on campus and work for a minimum of 180 hours for

the duration of the session. Students must register with the Department of Cooperative Education. Students must be sponsored by a Ford-Lincoln/Mercury Dealer.

**AUT 111
MINOR AUTOMOTIVE SERVICES
3 credits (0-6)**

Corequisite: MAT 107
Introduces shop operations, customer relations, flat rate manuals, safety, organizational design, pay structure, equipment, tools and basic operational theories. Includes service procedures for lubrication, batteries, the cooling system, wheels and tires and new car pre-delivery service.

**AUT 115
AUTOMOTIVE BRAKE SYSTEMS
2 credits (0-5)**

Corequisite: AUT 111
Covers diagnosis and repair of both drum and disc brake systems, power brake boosters, master cylinders, wheel cylinders and related component parts.

**AUT 117
AUTOMOTIVE ELECTRICAL SYSTEMS
3 credits (0-6)**

Corequisite: AUT 111
Covers the automobile electrical system including batteries, wiring, lighting, alternators, generators, starters and voltage regulators. Includes the use of electrical test equipment and schematics. Stresses the proper care and use of tools.

**AUT 122
ANALYSIS AND TUNE UP
3 credits (0-6)**

Prerequisites: AUT 124 and 126
Corequisites: AUT 224 and 227
Covers techniques for diagnosing the automobile engine and other areas. Stresses electronics and conventional ignition systems. Introduces carburetion and injection systems. Complete tune-up procedures, using the latest test equipment, are studied to insure the proper application to the automobile.

**AUT 124
AUTOMOTIVE HVAC SYSTEMS
3 credits (0-6)**

Prerequisites: AUT 111 and 117
Focuses on the principles of operation and service techniques applied to automobile air conditioning systems. Topics include components familiarization, testing, diagnosing, charging and repair practices.

**AUT 126
ALIGNMENT, SUSPENSION AND
STEERING SYSTEMS
2 credits (0-5)**

Prerequisite: AUT 111 and 115
A study of the proper techniques and procedures for complete front-end service, wheel alignment, replacement of worn parts, balancing wheels and related front-end and steering mechanisms.

**AUT 208
AUTOMOTIVE TECHNOLOGY
WORK EXPERIENCE II
3 credits (1-12)**

Prerequisites: AUT 122, 124, and 126
A cooperative work experience program employing students in a technical position in order to gain practical experience necessary for success in the automotive service industry. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their position in order to effect the attainment of specific job competencies. Students attend a weekly seminar on campus and work for a minimum of 180 hours for the duration of the session. *Students must register with the Department of Cooperative Education. Students must be sponsored by a Ford-Lincoln/Mercury Dealer.*

**AUT 211
STANDARD TRANSMISSION &
DRIVE TRAIN
3 credits (0-6)**

Prerequisite: AUT 111
A study of the operating principles, construction, and maintenance of the manual transmission and related drive train components.

**AUT 213
AUTOMATIC TRANSMISSION I
3 credits (0-6)**

Corequisite: AUT 211
A study of the theory, operation and diagnosis of automatic transmissions. Rebuilding of automatic transmissions is introduced.

**AUT 216
FUEL AND EMISSION SYSTEMS
3 credits (0-6)**

Prerequisite: AUT 122
A study of the principles and functions of the automotive fuel system including the carburetor, fuel pump, gas tank and emission control systems. Stresses the diagnosis and repair and adjustment of emission control systems, repair and adjustment of the carburetor, fuel injection and their components.

**AUT 217
ENGINE DIAGNOSTICS & REPAIR I
3 credits (0-6)**

Prerequisite: AUT 122
A study of the operational theory of the internal combustion engine. Engine rebuilding, mechanical diagnosis and failure analysis are introduced. Emphasis is on the proper use of hand tools, measuring instruments and equipment.

**AUT 218
AUTOMOTIVE TECHNOLOGY
WORK EXPERIENCE III
3 credits (1-12)**

Prerequisites: AUT 211, 213, 216, and 217
A cooperative work experience program employing students in a technical position in order to gain practical experience necessary for success in the automotive service industry. 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 seminar on campus that guides them through the process of job search and decision-making. Explores career opportunities in the automotive field, develops resume writing skills, interviewing techniques, and demonstrates how to apply these techniques and skills in the job market. Students must work for a minimum of 180 hours for the duration of the session. Students must register with the Department of Cooperative Education. Students must be sponsored by a Ford-Lincoln/Mercury Dealer.

**AUT 226
AUTOMATIC TRANSMISSION II
2 credits (0-5)**

Prerequisite: AUT 213
A continuation of Automatic Transmission I. Transmission rebuilding is continued with emphasis on in-service automotive repair.

**AUT 228
ENGINE DIAGNOSTICS & REPAIR II
3 credits (0-6)**

Prerequisite: AUT 217
A continuation of Engine Diagnostics and Repair I. Engine rebuilding is continued with emphasis on the proper use of hand tools, measuring instruments and equipment.

AUT 229
AUTOMOTIVE ELECTRICITY
AND ELECTRONICS
3 credits (0-6)

Prerequisites: MAT 108 and AUT 217

An introduction to electrical/electronic principles and applications to automotive systems. Covers DC and AC circuit fundamentals, wiring diagrams, electronic devices, use of test equipment and troubleshooting techniques.

BIOLOGY

(For related courses, see Science)

BIO 010
BASIC BIOLOGY
4 credit equivalents (3-3)

Corequisite: MAT 013

An introduction equivalent to one year of high school biology. The basic principles and terminology of biological sciences. Recommended for students with insufficient background in biology to prepare them for college level biology courses. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/development requirements.

BIO 105 **GE SCI**
HEREDITY, EVOLUTION AND SOCIETY
4 credits (3-2)

Prerequisites: Two years high school mathematics or Algebra I (or MAT 013) and one year high school laboratory science

An introduction to classical and modern genetics and evolutionary theory. A survey on the historic and scientific developments leading to our current concepts of heredity and evolution. The individual and societal implications of the powerful ideas and technologies associated with modern genetics and evolutionary theory. Includes computer simulations, audiovisual materials and laboratory observations (without dissection). Recommended for non-science majors.

BIO 106 **GE SCI**
HUMAN BIOLOGY, BIOMEDICAL ISSUES
AND SOCIETY
4 credits (3-2)

Prerequisites: Two years high school mathematics or Algebra I (or MAT 013) and one year high school laboratory science

An introduction to the functioning of the human body; a survey of selected body systems in health and disease. There will be discussions and written assignments concerning human biological issues from both historical and current perspectives. Laboratory exercises (without dissection), audiovisual materials, computer simulations and current readings are included. Recommended for non-science majors.

BIO 111 **GE SCI**
HUMAN ANATOMY AND PHYSIOLOGY I
4 credits (3-3)

Prerequisite: high school biology and chemistry with labs or high school biology and CHM 010 or BIO 010
A study of human cells and tissues as they relate to organs and systems. Structural and functional features of the skeletal, muscular and nervous systems are examined. Recommended for students in the health sciences.

BIO 112 **GE SCI**
HUMAN ANATOMY AND PHYSIOLOGY II
4 credits (3-3)

Prerequisite: BIO 111

A continuation of BIO 111. Study of the structure and function of the body is continued by examining the endocrine, reproductive, circulatory, digestive, respiratory and excretory systems.

BIO 117 **GE SCI**
BIOLOGY I
4 credits (3-3)

Prerequisites: Two years of high school mathematics or MAT 013 and one year high school laboratory science or BIO 010

A general study of the physical and chemical properties of living material, cell organelles, transport cell division, energy transformations in photosynthesis and cellular respiration, plant and animal tissues, the classification of organisms and genetics.

BIO 118 **GE SCI**
BIOLOGY II
4 credits (3-3)

Prerequisite: BIO 117

A continuation of Biology 117. Emphasis is on supporting life processes, animal systems, evolution, ecosystems and communities.

BIO 123 **GE SCI**
GENERAL BIOLOGY I
4 credits (3-3)

Prerequisites: One year of high school biology or BIO 010 and one year of high school algebra or MAT 013

A study of the basic principles and origins of life; the chemistry of living things; cell structure, function and reproduction; cell metabolic processes; plant taxonomy, anatomy, physiology and reproduction; Mendelian genetics and modern genetics principles. Required of science transfer students in biology, chemistry, mathematics and physics.

BIO 124 **GE SCI**
GENERAL BIOLOGY II
4 credits (3-3)

Prerequisite: BIO 123

A continuation of BIO 123. Emphasis is on plant and animal systems, evolution and ecology.

BIO 202
HISTOLOGY
4 credits (3-3)

Prerequisite: BIO 118 or equivalent

A detailed study of mammalian cells and tissues. Prepared sections of organs are used to investigate the intricate pattern of tissue types. Stresses the relationship between structure and function.

BIO 203
BIOLOGICAL LABORATORY TECHNIQUES
3 credits (2-3)

Prerequisites: BIO 118; CHM 118 or equivalent

Laboratory experience in common biological techniques. Emphasis is on microscopy, histological techniques, tissue culturing, and macromolecular separation and identification.

BIO 211
PRINCIPLES OF MICROBIOLOGY
4 credits (3-2)

Prerequisite: BIO 010 or equivalent

An introductory study of the microbial world with emphasis on the nature and behavior of microorganisms, the interrelationships that operate between microbes and the human host in health and disease, and the principles of prevention and control of infectious disease. Laboratory experience develops techniques in the proper handling, observation and identification of microbial cultures. Recommended for students in the health sciences.

BIO 213
COMPARATIVE VERTEBRATE ANATOMY
4 credits (3-3)

Prerequisite: BIO 118 or equivalent

A comparison of the evolutionary history of the vertebrates emphasizing their anatomy, embryological origin, physiology and evolutionary relationships. Morphological comparison is made by studying selected skeletons and dissecting selected vertebrates in the laboratory.

BIO 214
VERTEBRATE PHYSIOLOGY
4 credits (3-3)

Prerequisites: CHM 118 or equivalent

An analysis of basic physiological concepts and their relationship to selected vertebrate types. Emphasis is on mammalian physiology with laboratory exercises in instrumentation, animal handling and basic in class computer analysis of data. Formal laboratory reports and notebooks are required.

BIO 221
MICROBIOLOGY
4 credits (3-3)

Prerequisite: BIO 118 or equivalent

A comprehensive study of microorganisms with emphasis on bacteria. Topics include: cellular and viral structure and function, taxonomy, microbial metabolism and genetics, physical and chemical methods of controlling microorganisms and concepts of pathogenicity and immunology. The laboratory exercises emphasize practical skills in manipulating, observing, controlling and identifying microbes.

BIO 224
APPLIED MICROBIOLOGY
4 credits (3-3)

Prerequisite: BIO 221

Topics include: microbial ecology, aquatic microbiology, including water and wastewater treatment; microbiology of air, soil and food; dairy microbiology; industrial microbiology. In the laboratory students learn standard methods of analysis for microorganisms in the environment.

BIO 226
BIOLOGICAL TECHNOLOGY
COOPERATIVE EDUCATION
3 credits (1-12)

Prerequisite: Departmental approval must be obtained

A cooperative work experience program whereby students are employed in a technical position in order to gain some of the practical experience necessary for success in biological technology. Supervision of this departmentally approved position is provided by the college through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their position in order to effect the attainment of specific job competencies. Students attend a weekly, one hour seminar on campus and works a minimum of 180 hours per semester. Individuals must be recommended by the faculty of the department and registered with the department of cooperative education.

BUSINESS

BUS 010
FRESHMAN SEMINAR
3 credit equivalents (3-0)

An introduction to the touch operation of the alphabetic, numeric, and symbolic keys of the computer keyboard. Increases students' ability to think critically, abstractly, and systematically. Students are required to paraphrase, analyze, outline and summarize various types of problems in order to expand the deductive thinking and problem-solving skills most demanded in an academic environment. Emphasis placed on solving cases, study skills and time management.

BUS 101
BUSINESS ORGANIZATION AND
MANAGEMENT
3 credits (3-0)

The planning, supervision, control and performance of activities involved in the production of goods and services. The problems of human relations and labor-management and the functions of human resources, marketing, purchasing, production and finance are explored from the standpoint of effectively carrying on business that relates positively to the society of which it is a part.

BUS 103
BUSINESS MATHEMATICS
3 credits (3-0)

Prerequisite: Successful completion of the Mathematics, Part I, Computation Section of the New Jersey College Basic Skills Placement Test or, MAT 010, Basic Mathematics

The arithmetic of interest, bank discounts, payrolls, insurance, taxes, trade discounts and problems in retailing, business ownership, corporate securities and funds are covered.

BUS 107
INTRODUCTION TO BUSINESS DATA PROCESSING
3 credits (3-0)

Corequisite: OST 010 or waiver approved by the chairperson of the Office Systems Technology Department
Covers a full range of data processing methods and devices. Included are manual, mechanical, punched card and electronic data processing, including microcomputers. Other topics studied are the history of data processing, systems design and various programming languages. Laboratory instruction includes the use of electronic spreadsheets, database management software, word processing and graphics, as well as BASIC programming.

BUS 115
MATHEMATICS OF FINANCE
3 credits (3-0)

Prerequisite: Passing score on the New Jersey College Basic Skills Placement Test or successful completion of MAT 013

Covers the mathematics of consumer interest, compound interest, time value of money, and problems in retailing, business ownership and basic business probability and statistics.

BUS 201
BUSINESS LAW I
3 credits (3-0)

Brief surveys of the American legal system, procedural law, crimes and torts, administrative agencies, consumer, environmental and planning law. Detailed study of the substantive law of contracts, personal property and bailments and sales law. (In applicable areas the Uniform Commercial Code is covered as well as the common law principles.)

BUS 202
BUSINESS LAW II
3 credits (3-0)

Prerequisite: BUS 201
Detailed study of the substantive law of commercial paper, agency and employment, security devices, bankruptcy, partnerships and corporations and real property. Decedents' estates, wills and trusts as well as insurance law are surveyed. (In applicable areas the Uniform Commercial Code is covered as well as the common law principles.)

BUS 205
BUSINESS COMMUNICATIONS
3 credits (3-0)

Prerequisite: A passing score on the New Jersey College Basic Skills Test or a grade of "C" or better in English 010: Writing Skills for College

A practical approach to writing reports, memos and business letters and making oral presentations. Writing techniques relating to the nature of audience, the effectiveness of language, purpose and other rhetorical considerations.

CHEMISTRY

(For related courses, see Science)

CHM 010
BASIC CHEMISTRY
4 credit equivalents (2-4)

Prerequisite: MAT 013 or one year of high school algebra
An introduction to the fundamental principles of chemical structure and reactions. Includes applications in related laboratory work. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements.

CHM 107 **GE SCI**
PRINCIPLES OF CHEMISTRY
4 credits (3-2)

Prerequisite: One year of high school laboratory chemistry or CHM 010
An introduction to basic concepts of inorganic, organic and biochemistry. Topics include the metric system, ionic and covalent bonding, acids, bases, and salts, radioactivity, solutions, colloids, emulsions, gases, and important organic compound classes such as alcohols, ethers, esters, carbohydrates, proteins, lipids and enzymes.

CHM 117 **GE SCI**
CHEMISTRY I
4 credits (2-5)

Prerequisite: One year of high school algebra, or MAT 013 and one year of high school laboratory science or departmental approval
A foundation course involving a study of the metric system, bonding, periodic table, chemical equations, mole-related concepts, stoichiometry and gas law. Laboratory experiences stress proper lab technique, use of equipment, treatment of data and safety.

CHM 118 **GE SCI**
CHEMISTRY II
4 credits (2-5)

Prerequisite: CHM 117
A continuation of CHM 117. Topics include qualitative and quantitative solution chemistry, acid-base theory, chemical equilibria, oxidation-reductions and basic electrochemistry. Laboratory experiences cover qualitative analysis and volumetric methods of analysis. The volumetric techniques include acid-base and redox titrations and spectrophotometric analysis.

CHM 119 **GE SCI**
GENERAL, ORGANIC AND BIOCHEMISTRY I
4 credits (3-3)

Prerequisite: One year of high school laboratory chemistry or CHM 010 and two years of high school algebra or MAT 014
An introduction to the concepts of inorganic, organic, and biochemistry. Topics include: the metric system, atomic structure, periodic law, ionic and covalent bonding, nuclear radiation, chemical reactions and stoichiometry, gas laws, liquids and solids, acids, bases and salts, solutions, colloids and electrolytes, chemical kinetics and equilibrium and an introduction to hydrocarbon chemistry. Laboratory experiments conducted for each of the major topics. *Recommended for health sciences, liberal arts students.*

CHM 120 **GE SCI**
GENERAL, ORGANIC AND BIOCHEMISTRY II
4 credits (3-3)

Prerequisite: CHM 119
A continuation of CHM 119. Topics include hydrocarbon and functional group organic chemistry, carbohydrates, lipids and proteins, including the metabolism of these substances, nucleic acids, and the chemistry of blood and urine. Laboratory experiments conducted for each of the major topics.

CHM 123 **GE SCI**
GENERAL CHEMISTRY I
4 credits (2-5)

Prerequisites: Two years of high school algebra and geometry or MAT 014, and one year of high school chemistry
A theoretical treatment of principles and laws underlying atomic structure, chemical reactions, enthalpy changes, bonding and states of matter integrated with descriptive material and quantitative calculations. Laboratory experiences reinforce both theoretical and quantitative aspects of the lecture topics.

CHM 124 **GE SCI**
GENERAL CHEMISTRY II
4 credits (2-5)

Prerequisite: CHM 123
A continuation of CHM 123. A study of acids and bases, oxidation and reduction, thermodynamics, kinetics, equilibrium, electrochemistry. Laboratory experiences include qualitative and quantitative determinations related to lecture topics.

CHM 201 **GE SCI**
PRINCIPLES OF ORGANIC CHEMISTRY
4 credits (3-3)

Prerequisite: CHM 118 or equivalent
An introduction to the basic concepts of organic chemistry in a nonmechanistic approach. Laboratory experiences include standard techniques are learned, such as recrystallization, distillation, chromatography, extraction and organic synthesis. A one-semester course.

CHM 202 **GE SCI**
BIOCHEMISTRY
4 credits (3-3)

Prerequisite: CHM 201
An introduction to the chemistry of compounds present in living systems. Topics include the structure and properties of carbohydrates, lipids, proteins and nucleic acids and the metabolism of these substances in the body. Laboratory experiments include the qualitative and quantitative analysis of these compounds. A one-semester course.

CHM 219
MODERN METHODS OF ANALYSIS I
5 credits (3-6)

Prerequisites: CHM 118 and MAT 014 or equivalent
Covers the theory relating to the quantitative techniques of volumetric, gravimetric and spectrophotometric analysis. Topics include evaluation of measurements, concentration calculations, acid-base and precipitation equilibria. Laboratory experiments cover classical volumetric and gravimetric analysis and use of visible spectrometers.

CHM 220
MODERN METHODS OF ANALYSIS II
5 credits (3-4)

Prerequisites: CHM 219 and CHM 201 or equivalent
Covers modern instrumental analysis theory treating such topics as UV, VIS and IR spectrophotometry, AA and NMR spectrometry, electroanalytical techniques and chromatography (VPC, HPLC, TLC). Laboratory experiences relate to these topics.

CHM 223 **GE SCI**
ORGANIC CHEMISTRY I
4 credits (2-5)

Prerequisite: CHM 124 or equivalent
A mechanistic study of the preparation and chemical reactivity of aliphatic and aromatic hydrocarbons. Laboratory experiences include the basic techniques of organic synthesis and the related techniques used in the isolation and purification of organic compounds.

CHM 224
ORGANIC CHEMISTRY II
4 credits (2-5)

Prerequisite: CHM 223

A mechanistic study of the preparation and chemical reactivity of aliphatic and aromatic alcohols, ethers, aldehydes, ketones, amines, carboxylic acids, and their derivatives. Laboratory experiences include the classical chemical tests used in the characterization of the various functional molecules. Infrared and nuclear magnetic resonance spectroscopy are used in structure determination. Basic techniques of gas chromatography and high performance liquid chromatography are included.

CHM 226
CHEMICAL TECHNOLOGY COOPERATIVE EDUCATION
3 credits (1-12)

Prerequisites: CHM 201 or CHM 223 and CHM 219 and departmental approval

Departmental approval must be obtained. A cooperative work experience program employing students in technical positions to gain practical experience necessary for success in chemical technology. Supervision of this departmentally approved position is provided by the college through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their positions in order to effect the attainment of specific job competencies. Students attend a weekly, one hour seminar on campus and work a minimum of 180 hours a semester. *Individuals must be recommended by the faculty of the department and register with the department of cooperative education.*

MANUFACTURING ENGINEERING TECHNOLOGY

CIM 203
ROBOTICS AND AUTOMATED SYSTEM COMPONENTS
4 credits (3-3)

Prerequisites: CSC 117, ELT 106

Corequisite: ELT 111

A study of the hydraulic, pneumatic, electrical, and mechanical components and drives utilized in Robotics and Automated systems. Topics include the terminology, movements, work envelopes, operations, and applications of robots, the theory components, and operations of hydraulic, pneumatic, and electrical drives and the interfacing of robots in automated systems. Laboratory provides hands-on experiences in the set-up, operations, analysis, and control of various robotic automated systems.

CIM 204
COMPUTER AIDED MANUFACTURING
3 credits (2-3)

Prerequisites: CSC 117, MEC 111 and 124

A study of the high technology hardware and software utilized in numerical control machine tools and computer aided manufacturing of products. Topics include the manual and computer aided programming of lathes and machining centers for both point-to-point and continuous path machining. Laboratory provides hands-on experiences in the programming, setting-up and operations of numerical control lathes and machining centers.

GE SCI

CIM 206
COMPUTER INTEGRATED MANUFACTURING PROJECT
2 credits (1-3)

Prerequisites: CIM 203, CSC 117, ELT 111, MAT 110, MEC 112 and 124

Students complete a comprehensive project in an area of computer integrated manufacturing, including a working model, completed part, or investigation into a CIM area. Students use equipment in the developmental laboratories or one of the specialty laboratories: Robotics, F.M.S. cell, CNC, CAD/CAM. A professionally prepared report and an oral presentation are required. Offered at N.J.I.T. under the supervision of N.J.I.T. faculty or at MCC under the supervision of MCC faculty. The project must be approved by an MCC faculty member.

CIVIL/CONSTRUCTION ENGINEERING TECHNOLOGY

CIT 104
SURVEYING I
3 credits (2-3)

Prerequisite: MAT 109

Corequisites: CIT 106, CSC 117

An introduction to surveying, the theory of measurement and error. Lecture stresses the concepts and computations of surveying, surveying observations and adjustment, specification and orders of accuracy, field and office procedures, distance measurements, concepts of leveling, principles of angle and direction measurement, and principles of stadia and tachometry. Laboratory exercises present experiential learning through a hands-on approach to illustrate and reinforce the above lecture topics.

CIT 105
STATICS AND STRENGTH OF MATERIALS
4 credits (4-0)

Prerequisite: MAT 109

Corequisite: CSC 117

A combination of statics and strength of materials covering resultants and equilibrium of force systems, trusses, frames, friction, centroids, moment of inertia, and axial stress and strain. *Computer usage required.*

CIT 106
CIVIL ENGINEERING DRAWING
2 credits (0-4)

Prerequisite: Passing score on the New Jersey Basic Skills Placement Test or successful completion of MAT 014, and MEC 123

A study and execution of drawings normally encountered in civil engineering. Includes topographic maps, deed descriptions, utility plans and profiles, zone restrictions, elevations, wall sections in steel, masonry and wood. Several surveying plans are also included.

CIT 107
CONSTRUCTION MATERIALS & ESTIMATES
2 credits (1-3)

Prepares novice students with general knowledge necessary in the construction industry. Topics to include: materials and their use, quantity takeoffs, pricing and job scheduling. Laboratory projects emphasize practical estimating procedures.

CIT 116
CAD APPLICATIONS IN CIVIL ENGINEERING TECHNOLOGY
2 credits (0-4)

Prerequisite: MEC 123

A computer laboratory course designed for students who have passed a basic college level course in technical graphics/CAD. Covers use of a common CAD program. Topics include CAD relative to civil engineering details, dimensioning, sections, as well as project work related to civil applications, such as subdivisions and site plans.

CIT 151
URBAN AND SUBURBAN DEVELOPMENT
3 credits (3-0)

Prerequisite: CIT 205

Land use planning, zoning and planning boards, general building codes, local control surveys, land data systems, subdivision design, professional land planning systems.

CIT 203
STRENGTH OF MATERIALS II
4 credits (3-3)

Prerequisites: CIT 105 and CSC 117

Corequisite: MAT 110

A continuation of CIT 105. Includes torsion, shear and moment in beams, stresses and deflection in beams, concentric and eccentric joints, combined loading, columns, and structural design of wood components. Laboratory experiments supplement the lecture material and include emphasis on reading instructions and report preparation. Computer programming projects and oral presentation required.

CIT 205
SURVEYING II
3 credits (2-3)

Prerequisites: CIT 104, 116 and CSC 117

A continuation of CIT 104. Emphasis is on the more complex computational skills. Lectures include: computations and methods of traverse; balancing and analysis with respect to orders of accuracy; New Jersey State Plane coordinates traverse computations, Circular curves-simple and compound, vertical curves, curve layout, principles of radial stakeout using modern methods, three-point resection, subdivision computations, and earthwork. Laboratory exercises demonstrate and reinforce the above. Computer programming projects required.

CIT 210
SOIL MECHANICS
2 credits (1-2)

Prerequisites: CIT 105 and CSC 117

A study of soil mechanics to include index properties, soil moisture, shear strength, subsurface stresses, lateral pressure, settlement and bearing capacity. Emphasis is placed on the engineering properties of soils, prediction of soil behavior under certain load conditions and classification of soils. Computer programming projects required.

CIT 212
HYDRAULICS
4 credits (3-3)

Prerequisites: MAT 110, CIT 105 and CSC 117, PHY 115

A study of the properties of fluids, hydrostatics, and fluid flow as applied to pipes, weirs and open channels. Laboratory experiments are broken into two parts 1) physical experiments designed to supplement lecture material and 2) design projects which cover a storm sewer system, sanitary sewer, detention facilities, open channel systems, culvert sizing and backwater analysis. Computer programming projects and oral presentation will be required.

CIT 213
CONSTRUCTION MATERIALS LABORATORY
2 credits (1-3)

Prerequisite: CIT 107

Laboratory experience emphasizing procedures and techniques involved in standard soil, concrete and asphalt testing. Testing of field and laboratory soil samples is carried out to determine the engineering properties of the soil. Aggregates for concrete and asphalt are tested for acceptability. Concrete and asphalt mixes are designed and tested for workability and strength.

CIT 214
CURRENT TOPICS IN CIVIL/CONSTRUCTION
ENGINEERING TECHNOLOGY
1 credit (1-0)

Prerequisites: CIT 116, 203, 205, and PHY 116
Broadens the education of the civil technology student by covering several selected topics chosen from a pool of topics and team-taught by faculty and local engineers who have particular expertise in the subject. Topics run in sequence and are chosen from a pool which includes: traffic & transportation, construction inspection, computer applications, timber design, construction law, construction accounting, route surveying, electricity in construction, HVAC systems, and soil conservation permits. A senior-level course.

CIT 216
STRUCTURAL DESIGN
4 credits (2-4)

Prerequisites: CIT 106, 116 and 203
Practical design in steel and concrete. Topics include member nomenclature, loads, framing, tension, compression, connections and bending. Computer programming and use of appropriate software will be included. Laboratory experiences will cover detail drafting of both concrete and steel, as well as computer aided drafting detailing.

CRIMINAL JUSTICE

(For related courses, see Correction Administration and Police Science)

CJU 123
CRIMINAL JUSTICE I
3 credits (3-0)

Examines both the substantive and procedural criminal law with a special focus on the administration of justice. Particular attention will be given to the role of the police, courts and correctional systems and how each separate entity must function within the framework of Constitutional law. Special emphasis will be on New Jersey statutory law and court rules. Formerly numbered CJU 203.

CJU 124
CRIMINAL JUSTICE II
3 CREDITS (3-0)

Prerequisite: CJU 123
A continuation of Criminal Justice I. Particular emphasis on the New Jersey court system including detailed discussions of the role of prosecutors versus defense attorneys; pretrial, trial and posttrial functions and the constant influence of ethical considerations. Formerly numbered CJU 204.

COMMUNICATION

COM 105
INTRODUCTION TO
COMMUNICATION STUDY
3 credits (3-0)

A survey of the field of communication studies, including the production, transmission and reception of messages among persons, groups, organizations and cultures.

COM 121
MASS COMMUNICATION STUDY
3 credits (3-0)

Prerequisite: COM 105 or permission of department chairperson
A survey of the institutions, history and technology of the mass communication media, concentrating on radio, television, film and other electronic and print media forms. Topics include the growth of print and electronic media, and the relationship among government, media and the public, including the social responsibility and ethics of mass communication.

COM 131
INTRODUCTION TO BROADCASTING
3 credits (3-0)

Prerequisite: COM 105 or permission of department chairperson
A comprehensive introduction to the historical development and regulatory policies of radio and television broadcasting. Emphasizes the social, economic and ethical impact of radio and television on society and its citizens.

COM 208
COMMUNICATION SEMINAR &
FIELD EXPERIENCE
3 credits (1-12)

Prerequisite: COM 105 and/or permission of department chairperson
A cooperative program whereby the student may gain experience in a communication-related position in radio, television or public relations in order to gain some of the practical experience necessary for growth and success. Supervision of this departmentally approved position is provided by the College through site visits and individual progress review related to the position in order to effect the attainment of specific competencies. The student attends a weekly, one-hour seminar on campus and serves a minimum of 180 hours during the semester.

COM 210
RADIO BROADCASTING PRODUCTION
3 credits (3-0)

Classroom and studio practice in the preparation and presentation of radio materials including writing, announcing, newscasting, interviewing, musical and dramatic programming. Practical concerns involve studio recording techniques, editing of audio tapes and program organization and management. The emphasis is on effective communication and ethical and aesthetic values in a production setting. Hands-on experience with equipment conducted in the campus radio studio, WMCC.

CORRECTION ADMINISTRATION

(For related courses, see Criminal Justice)

COR 201
INTRODUCTION TO CORRECTION
ADMINISTRATION
3 credits (3-0)

Prerequisite or corequisite: CJU 123
Examines the vast spectrum of systems, processes and people involved in the correctional field. Emphasizes the legal impact of the correctional process as well as correctional management theories and applications. Particular attention will be given to the massive changes of modern correctional facilities and emerging prison issues such as overcrowding, drugs and the AIDS problem.

COR 207
CORRECTIONAL INSTITUTIONS
3 credits (3-0)

Prerequisite or corequisite: CJU 123
Provides a thorough examination of the major issues that correctional institutions must deal with daily as well as the long term effects of decision and policy making. Particular attention given to treatment programs; their uses and limitations. Provides an overview of the past and current status of penal servitude. Explains the lifestyle of the offender in correctional facilities and evaluates efforts to integrate the institutional experience with the post-release life of the inmates.

COR 280
CORRECTIONS EXTERNSHIP
3 credits (2-0-6)

Prerequisites or corequisites: COR 201 OR COR 207
A cooperative work experience program whereby students are provided with a job that will enhance their competency by getting practical hands-on experience in county or state correctional facilities. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their position in order to effect the attainment of specific job competencies. Students attend a weekly, two-hour seminar on campus and work a minimum of 90 hours a semester.

COUNSELING AND
PLACEMENT SERVICES

CPS 021
CAREER AND EDUCATIONAL PLANNING
no credit (3-0)

A practical course which guides students through the process of career and educational decision-making. Personal assessment of interests, values, skills and strengths are related to career and educational exploration to enhance goal achievement and personal motivation.

CPS 031
BECOMING A MASTER STUDENT
3 credit equivalents (3-0)

A course designed to help students learn how to learn, to become "Master Students". Topics covered include notetaking, taking tests, improving memory, "muscle" reading, managing time and finances, dealing with pressure, handling relationships with family, friends, and faculty, setting goals and communicating effectively.

COMPUTER SCIENCE

CSC 010
CONCEPTS IN COMPUTERS
3 credit equivalents (3-0)

An introduction to computer concepts (equivalent to a one year course at the high school level). Topics include computer terminology, hardware, software, problem solving techniques, elementary concepts of sequence, selection, and repetition. Provides hands-on experience on PC's using DOS, WordPerfect, BASIC, and interactive software. Recommended for students interested in computer science who have not had a computer course in high school and who may be enrolled in developmental courses such as RDG 009, MAT 010, or MAT 013.

CSC 105 **GE CSC**
COMPUTER APPLICATIONS AND SYS-
TEMS
3 credits (3-0)

A survey of computer and information science. Defines what computers and computer programs are and their application in business, industry, institutions, and government. Topics include the history of computers, hardware devices, software programs, data processing ideas and terminology, privacy of information, ethical behavior requirements of personnel, feedback control concepts, and the influence of computers on people and society. Hands-on experience includes: data entry through electronic spreadsheets, electronic mail, word processing, creation and use of a database to support transaction processing, and on-line communication between computer users. Recommended for anyone who will be involved in computers and computer generated information.

CSC 107
COMPUTERS IN HEALTH TECHNOLOGIES
1 credit (0-2)

A survey of computer applications and their use in the health technology fields. Discussion of the major components of a computer, an introduction to software application packages including word processing and database, and an exposure to a personal computer operating system. Hands-on experience will be emphasized utilizing WordPerfect, dBase, and DOS.

CSC 109 **GE CSC**
"BASIC" PROGRAMMING AND SYSTEMS
3 credits (2-2)

Prerequisite: Two years high school Algebra or MAT 013
Corequisite: MAT 014

Covers the history, art and discipline of computer programming and problem solving techniques using the BASIC language and the implications for change in the present and future of society. Major emphasis is on problem solving using computers from a personal and professional point of view. Topics include top-down programming design, structural control logic, elementary data structures and sequential file handling.

CSC 115
COMPUTER PROGRAMMING FOR ENGINEERS
3 credits (2-3)

Prerequisite: Four years of high school mathematics or MAT 129 or any higher level math course

Corequisite: MAT 131: Analytical

The design, storage, retrieval, and execution of algorithms, data structures and computer programs. Emphasis is placed on use of an interactive time-sharing system. Applications include solving systems of equations and performing numerical integration. *The first course in programming for engineering science majors.*

CSC 117
INTRODUCTION TO TECHNICAL PROGRAMMING
2 credits (1-2)

Prerequisite: Two years of high school algebra or equivalent

The development of problem solving skills with the BASIC language using modern digital computers and terminals. The application of flowcharting and logical decision-making and programming techniques to a wide range of scientific and technical problems.

CSC 121
INTRODUCTION TO COMPUTER SCIENCE
4 credits (3-3)

Prerequisite: Two years high school algebra and geometry or MAT 014

Corequisite: MAT 125 or higher

First core course in Computer Science. Top-down algorithm design methods taught, and problem specifications implemented with Structured Programming Techniques in Pascal. Discusses major fundamental topics in the art of Computer programming including structures of sequence, selection and repetition, development of functions and procedures, and simple data structures like lists, tables, and files. *Required course for Computer Science and Science Transfer - Computer Science Option Students.*

CSC 122
DATA STRUCTURES
4 credits (3-3)

Prerequisites: CSC 121 and MAT 125

Corequisite: MAT 126 or higher level

A continuation of CSC 121. Focuses on problem solving of moderate complexity with arrays, strings, linked lists, stacks, queues, trees and graphs. Covers sorting, searching, and merging applications using appropriate data structures. Solutions are designed in an algorithmic language and implemented in PASCAL. *Required courses for Computer Science and Science Transfer-Computer Science Option Students.*

CSC 152
INTRODUCTION TO COBOL
4 credits (3-3)

Prerequisites: CSC 121 or chairperson's permission
Provides the elementary knowledge of how problems stated in business terminology can be solved using a modern computer language. A basic understanding of the features of Common Business Oriented Language (COBOL) is developed. American National Standard COBOL is used throughout the course. Students develop experience in problem solving through class problems, case studies and individual projects. Emphasizes flowcharting, coding, debugging and problem documentation. Students develop well-structured programming solutions to common business applications. Focuses on techniques used in batch applications, off-line.

CSC 153
INTRODUCTION TO PL/I
3 credits (3-0)

Prerequisite: Two years of high school algebra and geometry or MAT 014

An introduction to programming using the PL/I programming language. Fundamental concepts such as data representation, assignment statements, looping, branching and indexing will be introduced and used in basic applications.

CSC 160
INTRODUCTION TO UNIX*
3 credits (3-0)

Prerequisite: CSC 121 or chairperson's permission
An introduction to the UNIX* operating system and its many capabilities and applications. Presents text editing, word processing, electronic mail, terminal-to-terminal communications. A hierarchical file system with a command programming language are introduced and applied in programming assignments.

CSC 165
BEGINNERS C-PROGRAMMING
3 credits (2-2)

Prerequisite: Two years high school algebra or MAT 014
Covers the syntax and semantics of the C programming language including: data types, operators, control structures, functions, program structure, pointers, array, structures, input and output. Students complete programs in C of moderate complexity on the UNIX* system.

CSC 203
LARGE SYSTEM ORGANIZATION AND PROGRAMMING
4 credits (3-3)

Prerequisites: CSC 121 and MAT 125 or higher
An introduction to the large class of computer systems (IBM) including architecture, organization and operating system concepts. The IBM Assembler and DOS Operating System will be introduced and used to teach the following major topics: number systems, addressing, data representation and manipulation, decimal and fixed point arithmetic, I/O macros and operating system interfacing, program debugging, dump reading, subroutine linkage and DOS-JCL.

CSC 205
DATA PROCESSING WORK EXPERIENCE I
3 credits (1-12)

Prerequisite: Completion of all courses in first year of Computer/Information Systems curriculum permission of Department of Computer Science chairperson
A cooperative work experience program whereby students are employed in computing/information systems positions in order to gain some of the practical experience necessary for success in the computing field. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their position in order to effect the attainment of specific job competencies. Students attend a weekly, one-hour seminar on campus and works a minimum of 180 hours a semester. Individuals must be selected by the cooperating employer and recommended by the chairperson of the computer science department.

CSC 206
DATA PROCESSING WORK EXPERIENCE II
3 credits (1-12)

Prerequisite: CSC 205

A continuation of CSC 205. Includes practical experience in the organization and operation of information and Data Processing departments. A term paper is required that discusses the work experiences and learning objectives of the student and is presented to the class.

CSC 209
ADVANCED BASIC
3 credits (2-2)

Prerequisite: CSC 109 or permission of instructor

An advanced course in the BASIC language. Selected topics include: top-down structured programming, advanced debugging techniques, functions, sorting routines, files (both sequential and random), linked lists, stacks and queues and tree-like structures. Students use hands-on timesharing terminals to solve problems.

CSC 210
OPERATING SYSTEMS
3 credits (2-2)

Prerequisites: CSC 203 or 233

Covers the concept of an operating system, its function within a computing system, and how it achieves its purpose. Traces the development of operating systems and functions of a multi-programming operating system are studied. Stresses resource management with an emphasis on CPU and memory allocation, timesharing, virtual memory, and I/O management. Major examples include operating systems for mainframes and minicomputers including a study of command languages.

CSC 225
SYSTEMS ANALYSIS
3 credits (2-3)

Prerequisites: CSC 122, 152

Corequisite: CSC 227 or CSC 243

An introductory systems analysis and design course for computer programmers and systems analysts. Presents an overview of information systems and the systems development life cycle. Stresses the techniques for systems documentation using the Excelsior case tools. Classical and structured methods for describing data flow, data modeling, process flow, file design, input and output design, and program specifications will be utilized to document systems. Also surveys other important skills for the systems analyst such as fact-finding, communications, and project management.

CSC 227
CICS - ADVANCED COBOL
4 credits (3-3)

Prerequisites: CSC 152 and 203 or chairperson's permission

Designed to extend the student's knowledge of ANSI COBOL with a concentration in on-line processing using CICS concepts such as transaction handling, multitasking, multithreading and re-entrant code. Advanced techniques including table handling, linkages and VSAM will be studied.

CSC 230
JOB CONTROL LANGUAGE
3 credits (2-2)

Prerequisite: Students must be active programmers or operators and/or have a full understanding of IBM architecture and concepts

A practical course for programmers and operators on the syntax, structure and applications of Job Control Language. Special emphasis is on OS and DOS environments.

CSC 233
COMPUTER ARCHITECTURE AND ASSEMBLY LANGUAGE I
4 credits (3-2)

Corequisite: CSC 122
Emphasizes computer organization and architecture of digital systems. Covers the assembly process in depth. Laboratory assignments on a large mainframe system (IBM-370).

CSC 234
COMPUTER ARCHITECTURE AND ASSEMBLY LANGUAGE II
4 credits (3-2)

Prerequisite: CSC 233
A continuation of CSC 233. An overview of PDP 11 assembly language and the comparative architectures are discussed. Programs are written in VAX and IBM assembly language.

CSC 237
ASSEMBLY LANGUAGE PROGRAMMING AND SYSTEMS ARCHITECTURE
3 credits (2-3)

Prerequisites: CSC 117, ELT 203
An introduction to computer architecture and organization and to programming the computer at the assembly language level. Topics include arithmetic and logic units, timing and control, primary and secondary memory, I/O operations, channels and bus architecture, as well as data representation and manipulation, addressing, I/O macros, subroutine linkage, debugging and dump reading. Laboratory sessions develop an in-depth understanding of the above areas.

CSC 239
DATABASE SYSTEM CONCEPTS
3 credits (2-3)

Prerequisites: CSC 122, CSC 225 and MAT 126 or higher, or permission of Chairperson
Provides students with a thorough understanding of what a database is and how it is used. Emphasis will be placed on the relationship and use of a database for the effective storage and retrieval of user data. The use of structured query language (SQL) will be presented. Hands-on laboratory experiences will provide the student with practical applications in the use of databases.

CSC 240
STUDENT DESIGN PROJECT
3 credits (2-3)

Prerequisites: CSC 225, 227, and 243
Students implement the application project specifications developed in CSC 225 or develop and implement an application project in this course. Emphasis is on top-down project design approach with structured documentation, well-structured programming techniques with annotated programs and a complete project narrative. Projects are often done in cooperation with local business and industry.

CSC 243
ADVANCED PROGRAMMING IN C
3 credits (2-3)

Prerequisite: CSC 122 or chairperson's permission
Covers advanced topics in program design, testing and modular integration. Presents "C" programming language and its use to implement programs of moderate difficulty in a UNIX* environment. Topics include data types, control structures, functions, pointers, arrays, structures, UNIX* system interface, readability, efficiency, portability and tools for software development.

CSC 245
UNIX AND SHELL PROGRAMMING
4 credits (3-3)

Prerequisite: CSC 122
Presents the basic concepts of the UNIX* Operating System including directories, files, processes, filters and communication ports. Explores the features of the UNIX* shell, input and output redirection, pipes, pattern matching using SED, AWK and GREP. Students learn the Bourne shell and develop the ability to write shell programs of moderate difficulty. Covers basic text processing and large software project tools.

CSC 246
UNIX SYSTEM ADMINISTRATION
3 credits (2-3)

Prerequisite: CSC 245
A continuation of CSC 245. Students gain additional insight into UNIX* commands and concepts that are essential to perform the jobs of UNIX* operator, UNIX* system administrator, and UNIX* software integrator. All major aspects of UNIX* system administration are covered including files, processes and communication ports.

CSC 247
INTRODUCTION TO DATA COMMUNICATION AND NETWORKING
3 credits (2-2)

Prerequisites: CSC 105, CSC 121, and MAT 125 or higher, or permission of Chairperson
This course deals with introductory data communication and networking concepts. ISO model is discussed as well as PC and mainframe interfacing techniques. Topics include communication security and communication packages. Step-by-step hands-on tutorials will be used to introduce the basic concepts of a Network Operating System using Novell NetWare.

CSC 256
RPG PROGRAMMING
3 credits (3-0)

Demonstrates how problems stated in business terminology can be solved using report program generation. Develops a sound understanding of the features of RPG. Students develop experience in problem solving through class problems and individual projects. Emphasis placed on problem solving, debugging and problem documentation.

DANCE

(For related courses, see Physical Education and Recreation)

DAN 131
ELEMENTS OF DANCE
3 credits (3-3)

Provides fundamental movement skills, and body awareness in Modern Dance, basic training at the elementary level of Ballet technique, introduction to a cross section of Jazz technique, movement styles and rhythms, theory and practical application in the principles of dance forms.

Emphasizes placement, strength, flexibility, coordination, musicality within the different dance idioms; the exploration of space, time and energy as the raw materials in dance; the specific vocabulary relating to the different dance techniques and the creative experiences of short movement patterns.

DAN 132
DANCE Appreciation
3 credits (3-3)

Designed to inform the student about dance as a performing art, through the critical evaluations of the various dance styles.

Discusses the role and collaboration of performers/dancers, choreographers, artistic advisors, composers, technicians and the audience.

Include lectures, lecture-demos, discussion, selected readings, films, video tapes, slides, live performances, and experimental dance/movement sessions.

Attendance at recommended dance performances is required. Written reports are required.

DAN 201
METHODS AND MODERN TECHNIQUES IN DANCE
3 credits (3-3)

Provides development in Modern Dance through theory and practical application. Emphasizes the practice of composition skills, clarity of movement, initiation, body articulation, and dynamics of performance.

Focuses on the development of small group work and solos, including form and structure. Attendance is required at two professional dance productions. Written reports must be submitted.

DAN 202
IMPROVISATION AND COMPOSITION
3 credits (3-3)

A comprehensive approach, introducing the creative and theoretical aspects of contemporary dance, with focus on improvisation toward composition. Dance studies will be designed through problem-solving experiences, exploration of resources, use of ideas, knowledge of forms, development of craft. Emphasizes the excitement of making choices and taking chances.

Studies will be performed as works in progress at the end of semester. (informal showing: individuals or group).

Class sessions will include lectures, films, discussion, selected readings on theory, philosophy, current trends of dance, and experimental dance/movements.

DENTAL HYGIENE

DHY 102
RADIOLOGY
2 credits (1-2)

The nature, production, and utilization of x-rays and theoretical and technically related to dentistry. Exposure, processing and mounting techniques as well as film interpretation. Introduction to hazards and safeguards.

DHY 105
ORAL ANATOMY AND HISTOLOGY
5 credits (3-4)

Detailed anatomical and histological study of the oral cavity. Emphasis on the teeth and related bones, muscles, nerves, glands and blood vessels. Didactic materials are supplemented by laboratory exercises.

DHY 107
PREVENTIVE ORAL HEALTH SERVICES I
3 credits (1-6)

Introduction to primary dental hygiene services. The basic sciences are related to the performance of such services as taking the medical and dental history oral inspection, scaling and polishing teeth and patient education. Didactic materials are supplemented by laboratory and clinical exercises. *May not be audited.*

DHY 108
PREVENTIVE ORAL HEALTH SERVICES II
5 credits (2-10)

Prerequisites: DHY 102 and 107 and current CPR certification
Clinical practice on patients of selected difficulty, encompassing the areas of oral inspection, Extra and Intra oral radiology, prophylaxis and patient education. Lectures material cover clinic related skills as well as a general reference to the entire scope of practice of this profession. *May not be audited.*

DHY 110
NUTRITION
3 credits (3-0)

Prerequisite: DHY 107
Fundamental principles of normal nutrients, nutrient requirements, sources, food values, deficiencies, and energy. Covers basic nutrition as it applies to general and oral health. Nutritional concepts applied to the science of preventive dentistry.

**DHY 101
DENTAL SPECIALTIES
2 credits (1-2)**

Prerequisite: DHY 108

Didactic and clinical presentation of individual dental specialties with emphasis on technical aspects, application to fields of dental hygiene implications for the assistant and patient education.

**DHY 203
GENERAL AND ORAL PATHOLOGY
2 credits (2-0)**

Prerequisite: DHY 105

An introduction to the basic principles of pathology. A consideration of common diseases affecting the human body and knowledge of how to correlate basic principles of general pathology to oral diseases and lesions. Special attention focused on abnormal conditions of the oral cavity.

**DHY 204
DENTAL MATERIALS
2 credits (1-2)**

A study of the chemical and physical properties of materials most commonly used in dental practice. Includes demonstration and performance of basic laboratory and operatory procedures as related to these materials.

**DHY 205
PERIODONTOLOGY
2 credits (2-0)**

Prerequisite: BIO 211

A detailed study of the principles and concepts of periodontal disease, including the tissues surrounding the teeth in both healthy and disease states. Emphasizes the dental hygienist's role in initial therapy and as a disease control therapist in the maintenance of oral health.

**DHY 207
DENTAL HEALTH EDUCATION
2 credits (2-0)**

Prerequisite: DHY 108

Principles and procedures of dental health education and the use of visual aids as applied to all types of dental programs. Emphasis on group presentations. Opportunity provided for observation and practice teaching.

**DHY 208
PHARMACOLOGY
2 credits (2-0)**

A study of the physical and chemical properties, dosage and effect of drugs with special consideration to those used in dentistry.

**DHY 210
PUBLIC HEALTH
2 credits (1-3)**

Prerequisite: DHY 207

A basic course in the concept, scope and administration of public health programs. Emphasis on the needs of the population and the role of the dental hygienist within public health practice. Opportunity provided for field experience in analysis and planning of public health education projects.

**DHY 211
PREVENTIVE ORAL HEALTH SERVICES III
5 credits (1-13)**

Prerequisites: DHY 102, 108, and 110

Continuation of DHY 108. *May not be audited.*

**DHY 212
PREVENTIVE ORAL HEALTH SERVICES IV
5 credits (1-13)**

Prerequisite: DHY 211

Continuation of DHY 211. *May not be audited.*

**DHY 215
ADVANCED PERIODONTOLOGY
1 credit (1-1)**

Prerequisites: DHY 108 and 205

An expanded study of the principles and concepts of, and current research on periodontal disease. In this advanced course the evaluation and monitoring of the periodontal disease process; the latest concepts in treatment; immunology; the relationship of periodontics to other dental specialties; and critique of related literature will be discussed. Various guest lecturers will share their expertise with the students.

**DISTRIBUTION (INCLUDING
PHYSICAL DISTRIBUTION,
TRANSPORTATION, MATERIALS
MANAGEMENT)**

**DIS 101
CONCEPTS OF MATERIALS MANAGE-
MENT,
TRANSPORTATION AND DISTRIBUTION
3 credits (3-0)**

Prerequisite: BUS 101

An introduction to basic principles of materials management and physical distribution. The interrelationships between materials management, physical distribution and other organizational activities are studied. Principal methods of planning and forecasting as related to these disciplines are examined. Control and measurement methods in terms of costs, processes, and efficiency are identified and defined in detail.

**DIS 201
CUSTOMER SERVICING
3 credits (3-0)**

Prerequisite: BUS 101

A study of physical distribution concepts and the development and processing of orders for goods and services placed on suppliers. Manual and data processing order-handling systems are discussed and cost benefits of each system are detailed. Includes analysis and student preparation for communications between customer service personnel and internal or external individuals such as manufacturing, credit and collection, the sales force, and customers. The order analyst is conceptualized as a self-contained entity capable of troubleshooting problem orders through the system.

**DIS 202
TRANSPORTATION
3 credits (3-0)**

Prerequisite: DIS 101

History, organization, and economic aspects of the American transportation system are considered. Introductory topics include the development of interstate rail, water, motor, and air carriers. The evolution of public regulation for each mode is studied. Advantages and limitations of each form of transportation are considered. Middlemen, such as freight forwarders and internodal transportation companies, are discussed. Major aspects of international transportation are considered. Insurance and packaging aspects of each transportation mode are analyzed.

**DIS 204
WAREHOUSING AND INVENTORY
3 credits (3-0)**

Prerequisite: DIS 101

A survey of public and private storage, materials control, and materials handling. Manual- and electronic-processing-based control systems, physical count, access, and location of materials inventory from raw material to finished goods, interpretation of data processing reports and updating, methods of physical inventory, including sampling. Manual versus automated storage and retrieval, storage at the factory versus storage near the marketplace, and the usage of integrated distribution centers versus storage warehouses are analyzed. Includes computer simulation.

DIETETIC TECHNOLOGY

(For related courses, see Hotel, Restaurant and Institution Management)

**DTC 101
INTRODUCTION TO DIETETIC
TECHNOLOGY
1 credit (1-0)**

An introduction to the organization of food service in health care facilities and the role of the dietetic technician.

**DTC 102
ORIENTATION TO DIETARY SERVICES
1 credit (1-0)**

Prerequisites: DTC 101, HRI 103 and 105

Corequisites: HRI 108 and 210

An introduction to the total organization of health care facilities, departmental function and responsibilities, as well as professional and paraprofessional interrelationships.

**DTC 208
SUPERVISED FIELD EXPERIENCE IN
FOODSERVICE MANAGEMENT SYSTEMS I
3 credits (0-9)**

Prerequisite: DTC 101 and HRI 105 with a grade of "C" or better

Corequisites: DTC 102, HRI 108 and 210

A clinical experience designed to introduce students to the organization of food service in a specific health care facility and to provide an integrated approach to the nutritional care of patients.

**DTC 209
SUPERVISED FIELD EXPERIENCE IN
FOODSERVICE MANAGEMENT SYSTEMS II
4 credits (1-9)**

Prerequisite: DTC 208

Corequisites: HRI 213, 210, and 203

A clinical experience in a health care facility designed to give students an opportunity to apply classroom theory to quantify food production, patient and employee food service, and personnel management.

**DTC 210
SUPERVISED FIELD EXPERIENCE IN
FOODSERVICE MANAGEMENT SYSTEMS III
4 credits (0-12)**

Prerequisite: DTC 209

Corequisites: HRI 205, DTC 220

A clinical experience in a health care facility designed to emphasize the managerial functions of planning and control in relation to food procurement, inventory management, cost accounting and overall evaluation of a dietary department.

**DTC 220
SEMINAR IN DIETETIC TECHNOLOGY
1 credit (1-0)**

Prerequisite: DTC 209

Corequisites: HRI 205, DTC 210

Explores the expanding dimensions of the dietetic technician's role in health care facilities and community nutrition programs and prepares students for entry into the health care field.

ECONOMICS

**ECO 201
SS
PRINCIPLES OF ECONOMICS I
3 credits (3-0)**

GE

Introduces the foundations of economic analysis and explores the problems of microeconomics, including national income, equilibrium analysis, and fiscal and monetary policy. The public sector of the national economy is also stressed.

ECO 202
PRINCIPLES OF ECONOMICS II
3 credits (3-0)

Prerequisite: ECO 201 or permission of department chairperson

Microeconomics: included are such topics as the price system, allocation of resources, distribution of income and the prospects for economic change. International trade is also studied.

GE SS

EDU 209
CHILD HEALTH AND NUTRITION
3 credits (3-0)

Basic principles and research findings for the health and nutrition of young children. Sensitivity to a child's mental and physical health. Planning an overall program of good nutrition and physical care for children who attend preschools, day care centers and kindergarten.

EDUCATION

EDU 121
INTRODUCTION TO EDUCATION
3 credits (3-0)

Analyzes the interaction of culture and education, develops from a historical perspective the evolution of modern education and examines contemporary issues and problems in American education. *Students are required to complete a 25 hour volunteer assignment working in a teaching/learning setting.*

EDU 123
FUNDAMENTALS OF READING INSTRUCTION
3 credits (3-0)

Presents elementary reading programs and the various causes of reading disabilities. An introduction to methods and materials of teaching reading, formal and informal tests, scoring and interpreting data, reading laboratory materials, phonics, vocabulary and comprehension problems and individualized reading programs. Students also investigate how young children learn their own language. An essential course component is the role of the aide in the reading environment.

EDU 126
ORIENTATION TO EDUCATIONAL PRACTICES
3 credits (3-0)

Designed to acquaint students with the many fundamental concepts related to the teaching and learning process. Learning processes and the methods and activities which motivate learning. Traditional and innovative instructional procedures are demonstrated and analyzed. The role of the paraprofessional in the teaching/learning environment is explored. *Students are required to complete a 25 hour volunteer assignment working in a teaching/learning setting.*

EDU 127
INTRODUCTION TO EARLY CHILDHOOD EDUCATION
3 credits (3-0)

The physical and mental health needs of young children, as well as curriculum, equipment and learning procedures appropriate for early school years are considered. Studies of current trends and issues in early childhood education are considered, with emphasis on established and innovative programs in the field.

EDU 208
CREATIVE ACTIVITIES FOR YOUNG CHILDREN
3 credits (3-0)

An examination of the significance of creative play in the education of young children. Students learn to understand, use and direct activities in art, music and science for preschoolers. Selection and use of audiovisual materials are considered. How young children learn and when they are ready to learn are concepts which this course develops. These concepts provide the rationale for planning creative activity programs.

EDU 210
EDUCATION OF EXCEPTIONAL CHILDREN
3 credits (3-0)

An introduction to the educational programs for exceptional and special learners. Current as well as historical specialized programs and issues. Recent research of special students' needs. Rationale-based strategies and instructional techniques to use with the exceptional population.

EDU 221
SPECIAL EDUCATION SEMINAR AND PRACTICUM I
4 credits (2-4)

Prerequisites: EDU 121 and 126 and departmental approval

Combines classroom instruction with experience in the special education field. Students function as special education assistants in public and private schools and institutions and agencies. Techniques of caring for the special population.

EDU 222
SPECIAL EDUCATION SEMINAR AND PRACTICUM II
4 credits (2-4)

Prerequisite: EDU 221 with grade of "C" or above with the departmental approval
A continuation of EDU 221. Placements are of a different nature than those assigned in EDU 221.

EDU 223
TEACHER ASSISTANT SEMINAR AND PRACTICUM I
4 credits (2-4)

Prerequisites: EDU 121 and 126 and departmental approval

The nature and scope of the role of the paraprofessional in education is examined in seminars. Students will assist a teacher in the classroom of a cooperating school.

EDU 224
TEACHER ASSISTANT SEMINAR AND PRACTICUM II
4 credits (2-4)

Prerequisite: EDU 223 with grade of "C" or above and departmental approval

A continuation of EDU 223. Increased effectiveness of the paraprofessional in the school setting. Classroom experiences are evaluated by students and supervising teachers. The placement is of a different nature than assigned in EDU 223.

EDU 225
EARLY CHILDHOOD SEMINAR AND PRACTICUM I
4 credits (2-4)

Prerequisites: EDU 121 and 126 and departmental approval

Includes on-campus classes and on-site practical experiences. Observation, evaluation, planning and strategies of classroom presentations and management. Supervised paraprofessional work with young children in day care centers, preschools and kindergartens. Students assist with evaluating their own progress in individual conferences with instructor.

EDU 226
EARLY CHILDHOOD SEMINAR AND PRACTICUM II
4 credits (2-4)

Prerequisite: EDU 225 with grade of "C" or above and departmental approval

A continuation of EDU 225. Students gain additional supervised experience as paraprofessionals in early childhood settings through academic work on campus and through evaluational procedures. Practicum placement is of a different nature than that assigned in EDU 225.

EDU 227
EARLY CHILDHOOD COOPERATIVE SUPERVISED FIELD EXPERIENCE I
4 credits (2-12)

Prerequisites: EDU 121 and 126 and departmental approval

In this supervised field experience, students are employed in a preschool, public/private school or kindergarten. Supervision is provided by the College through on-site visits and individual progress review sessions. Students are required to attend a two (2) hour weekly seminar on campus and work a minimum of 12 hours per week. This course may be substituted for EDU 225, Early Childhood Seminar/Practicum I.

EDU 228
EARLY CHILDHOOD COOPERATION SUPERVISED FIELD EXPERIENCE II
4 credits (2-12)

Prerequisite: EDU 227 with grade "C" or better and departmental approval

Builds upon experiences, techniques and information introduced in EDU 227. Proficiency is advanced in areas of classroom management, anecdotal reporting, interpersonal relationship and self-awareness. Students are required to attend a two (2) hour weekly seminar on campus and to continue to work a minimum of 12 hours per week. This course may be substituted for EDU 226, Early Childhood Seminar/Practicum II.

EDU 280
EDUCATION FIELD EXPERIENCE
3 credits (3-6)

Prerequisites: EDU 126, ENG 121 and 122
Observation and analysis of the teaching/learning experience in settings from preschool to high school. Includes observation, research and application of current practices in light of psychological, philosophical and historical theories of education. Requires a research paper.

ELECTRICAL ENGINEERING TECHNOLOGY AND COMPUTER ELECTRONICS

ELC 218
COMPUTER TROUBLESHOOTING/ PERIPHERALS
3 credits (2-3)

Prerequisite: ELT 226

A study of computer system hardware and peripherals with an emphasis on microcomputer systems. Peripheral devices studied include: fixed and removable magnetic disk drives, optical disk drives, printers, tape drives, and monitors. ROM POST and other software diagnostics are covered.

ELC 220
DIGITAL DATA COMMUNICATION AND NETWORKING
3 credits (2-3)

Prerequisite: ELT 226

A study of various types of data communication systems including WANS and LANS, system components, network structures, and interface techniques are examined. Transmission codes and multiplexing methods are emphasized. Extensive laboratory work includes use of protocol analyzers, installation of networks, hardware and software troubleshooting.

ELC 228
ADVANCED MICROCOMPUTERS
3 credits (2-3)

Prerequisite: ELC 226

A study of hardware, real and protected-mode programming, and interfacing of 32-bit microprocessors. The course includes an introduction to modern assemblers, software architecture, real and protected-mode programming and interfacing of this microprocessor.

ELT 010
INTRODUCTION TO ELECTRICAL TECHNOLOGY
3 credit equivalents (3-0)

Corequisite: MAT 013

Introduction to terms and methods used in the field of Electrical Technology and the mathematics and physical concepts that are essential for higher level courses. Increases students' ability to think critically, abstractly, and systematically. Calculator proficiency will be gained. Provides laboratory experiences. Recommended for all Electrical Engineering Technology students who must remediate MAT 013 or MAT 014.

ELT 101
CIRCUITS I
4 credits (3-3)

Corequisites: MAT 109 and CSC 117

A study of the fundamentals of DC electrical circuits. Topics include: current and voltage, resistance and resistive networks, work and power, network theorems, electrical measurement techniques, capacitance and inductance and an introduction to AC theory. Computers are used in the analysis of electric circuits. Theory is supplemented by laboratory experimentation.

ELT 102
CIRCUITS II
4 credits (3-3)

Prerequisite: ELT 101 or equivalent

Corequisite: MAT 110

A continuation of ELT 101. Topics include inductance, DC transients, alternating current circuits, power, reactance and impedance, and frequency analysis, vector mathematics and resonance. Theory is supplemented by laboratory experimentation.

ELT 103
ELECTRONICS I
4 credits (3-3)

Corequisite: ELT 102

An investigation of the physical operation of semiconductor devices and a discussion of the analytical and graphical techniques used in the design and analysis of circuits which use these devices. Equivalent circuits are used to describe the operation of basic amplifying circuits. Applications of these circuits are covered. Computers are used in the analysis of electronic circuits.

ELT 106
TECHNICAL ELECTRICITY
4 credits (3-3)

Prerequisite: MAT 109

Corequisite: MAT 110

A study of the theory and practical applications of electricity. Topics include fundamental principles of electricity, AC and DC circuits, electrical instruments, electro-magnetic devices (transformers and rotating machinery) and electronic circuits and devices. Laboratory provides hands-on experience.

ELT 111
DIGITAL ELECTRONICS
3 credits (2-3)

Corequisite: ELT 101

A study of a digital electronic circuits and systems. Introduces number system and Boolean Algebra topics. Digital electronic circuits and systems are analyzed and designed. Topics covered are: logic gates, Flip-Flops, registers, counters, arithmetic logic circuits, memories and various logic families.

ELT 203
ELECTRONICS II
4 credits (3-3)

Prerequisite: ELT 103

A study of the performance and applications of transistor and linear integrated circuits. Laboratory experiments are used to supplement the studies of circuits and to verify analytical results. Topics covered are feedback systems, operational amplifiers, power amplifiers, regulated power supplies and power control circuits. Computers are used in the analysis of electronic circuits.

ELT 205
ELECTROMAGNETIC DEVICES
3 credits (2-3)

Prerequisite: ELT 102

An introduction to the basic principles and practice of electromechanical energy conversion devices. AD-DC motors and generators, transformers, magnetic amplifiers, and three phase circuits.

ELT 208
ELECTRICAL ENGINEERING TECHNOLOGY CO-OP WORK EXPERIENCE
3 credits (1-12)

Prerequisites: ELT 102 and 103

A cooperative work experience program whereby students are employed in a technical position in order to gain some of the practical experience necessary for success in technology. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their position in order to effect the attainment of specific job competencies. Students attend a weekly, one hour seminar on campus and work for a minimum of 13 hours a week. Students are required to work a total of 180 hours during the semester. Students must be recommended by the Department faculty. *Students must register with the department of cooperative education.*

ELT 215
APPLIED ELECTRICITY
3 credits (2-3)

Prerequisite: MAT 108

An introduction to the theory and practical applications of electricity. Topics such as: DC and AC circuit theory, electrical instrumentation, electromagnetic devices and circuits and electronic devices and circuits are covered. Laboratory experimentation included.

ELT 216
HVAC CONTROL SYSTEMS
3 credits (2-3)

Prerequisite: ELT 215

An introduction to the fundamentals of measurement and control of electric, electronic and fluid control systems. Topics to include control of residential, commercial and industrial air conditioning and heating systems, zone control, special control systems and supervisory control systems.

ELT 221
ELECTRIC CIRCUITS I
4 credits (3-3)

Corequisite: MAT 132

Introduction to electric circuit theory. Topics include: the mathematical development, current voltage, resistance, power, passive electrical components, laws of electricity and network theorems. Stresses analysis techniques. Theory is supplemented by laboratory work. Recommended for engineering students.

ELT 222
ELECTRIC CIRCUITS II
4 credits (3-3)

Prerequisite: ELT 221

A continuation of ELT 221. Study of the phasor concept, AC power, complex frequency, resonance, Fourier analysis techniques, Laplace transforms, polyphase circuits, and two port networks. Laboratory experiments supplement theoretical topics.

ELT 223
ELECTRONIC DESIGN AND MANUFACTURING
2 credits (1-3)

Prerequisites: ELT 111 and MEC 117

Corequisite: ELT 103

A study of electronic design and manufacturing techniques. Students perform individual technical projects which encompass all phases of modern design, development, and manufacturing processes. Topics such as: Cost Analysis, Engineering Design, Component Section, Time Scheduling, Printed Circuit Board Layout and Fabrication Techniques, and Product Evaluation are discussed. Monolithic and Hybrid IC fabrication techniques are studied.

ELT 224
COMMUNICATION ELECTRONICS
3 credits (2-3)

Prerequisite: ELT 203

A study of Electronic Communication Systems. An introduction to signal processing methods, analog and digital modulation techniques, radio receivers, transmitters, and microwave principles and antennas.

ELT 226
MICROCOMPUTERS
2 credits (1-3)

Prerequisite: ELT 111

A study of the hardware, software, interfacing and programming of a contemporary microcomputer. Students demonstrate the application of the micro-computer through laboratory projects. *For electrical engineering technology students.*

ELT 233
CONTROL OF INDUSTRIAL MOTORS
3 credits (2-3)

Corequisite: ELT 205

A study of control circuits used in starting, stopping, reversing, and speed control of DC and AC motors. Both conventional and programmable logic methods are used to implement control circuits.

ELT 234
AUDIO TECHNOLOGY
3 credits (2-3)

Prerequisite: ELT 103

A study of the basic principles of acoustics. Students consider the specific roles of the audio building-blocks—the microphone, amplifier, filter, mixer, loudspeaker, etc. Topics include home and professional (studio) configuration with consumer education.

ELT 236
AUTOMATIC CONTROLS
3 credits (2-3)

Prerequisites: ELT 103

Corequisite: MAT 112

A study of Linear Control Systems used to develop techniques to analyze stability criteria. Compensation methods of stabilization are examined. Control system components are studied in the lecture and in the laboratory by the interconnection of components to develop a complete control system. The use of Analog Computers as a design aid is studied in the laboratory.

ELT 237
DIGITAL COMMUNICATIONS
3 credits (2-3)

Prerequisite: ELT 111

Corequisite: ELT 224

A study of digital communications including the following topics: Time Division, Multiplexing, Pulse Code, Modulation techniques, amplitude shift keying, error rate measurement, parallel/serial, and serial/parallel conversion, electrical interface techniques, parity and block code circuitry, measurements of delay distortion and other impairments.

ELT 238
ADVANCED DIGITAL ELECTRONICS
3 credits (2-3)
Prerequisite: ELT 111
A continuation of ELT 111. Topics include: Combinational Logic Design, Sequential Logic Design, Memory Systems, I/O Devices and Digital Data Transmission.

ENGLISH

ENG 009
WRITING SKILLS FOR COLLEGE I
4 credit equivalents (3-1)
For students whose New Jersey College Basic Skills Placement Test scores show they need intensive work to improve their writing abilities. Objectives are designed to develop the ability to write in Standard American English. Instruction is provided in sentence structure, punctuation, and usage; students regularly practice writing effective sentences, paragraphs and short essays. Students may have to enroll in ENG 010 after successfully completing ENG 009. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements.

ENG 010
WRITING SKILLS FOR COLLEGE II
3 credit equivalents (3-0)
Prerequisite: Appropriate score on the New Jersey College Basic Skills Placement Test or a grade of "C" or better in ENG 009
Designed to improve fundamental skills of Standard American English through the writing of effective sentences, paragraphs, and essays and to build confidence in beginning writers. Correct spelling, punctuation and grammar are stressed. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements.

ENG 121 **GE COM**
ENGLISH COMPOSITION I
*(See Additional Information)**
3 credits (3-0)
Prerequisite: A passing score on the New Jersey College Basic Skills Test or a Grade of "C" or better in English 010: Writing Skills for College
Through a variety of writing projects requiring description, characterization, narration, illustration, process analysis, comparison and contrast and definition, as well as a documented essay, students develop competence in clear, correct, effective written English. Students write between 7,000 and 10,000 words, including drafts and revisions.

ENG 122 **GE COM**
ENGLISH COMPOSITION II
*(See Additional Information)**
3 credits (3-0)
Prerequisite: English 121
Through writing, reading of essays, short stories and poems, and speaking, students continue to learn and to practice the skills of clear, correct, effective English. Through a variety of projects requiring techniques such as cause and effect, analysis, evaluation, classification, argumentation, and persuasion, as well as a through formal research (library) paper, students write between 7,000 and 10,000 words, including drafts and revisions.

ENG 125 **GE COM**
ENGLISH COMPOSITION II:
WRITING ABOUT LITERATURE
3 credits (3-0)
Prerequisite: A grade of "C" or better in ENG 121
Enables students to continue strengthening academic writing skills while developing an appreciation for literature. By reading, discussing and writing about poetry, short stories, drama, and critical essays, students continue to practice skills introduced in English Composition I and learn techniques important to argumentation, critical analysis, literary interpretation, and library research. Various writing projects, including a formal full-length research paper on a literary topic—amounting to between 7,000 and 10,000 words—are required. *This course may be substituted for ENG 122 and carries full credit for graduation in all programs.*

ENG 172 **GE COM**
ENGLISH COMPOSITION II (HONORS)
3 credits (3-0)
Prerequisite: Admission to the Honors Program
Through writing, reading, and discussing, students learn and practice the skills of clear, correct, effective English and engage in independent critical thinking. Various types of writing—essays, stories, poems, and plays—are analyzed; writing projects will include critical essays as well as a literary research paper.

ENG 173 **GE COM**
ADVANCED WRITING WORKSHOP
(HONORS)
3 credits (3-0)
Prerequisite: ENG 172
An intensive writing course in which students continue to refine writing and research skills by interacting with both instructor and peers to form a community of writers. Students choose writing projects directly related to their personal, professional, or academic needs. Sustained reading of books, periodicals, monographs, government documents, and supplemental research tools in the student's major or field of interest is required, as is a formal research project on a related topic.

ENG 200
HONORS RESEARCH SEMINAR
1 credit (1-0)
Prerequisite: ENG 173
Focuses on advanced methods of research in the student's field of academic interest. Students use research tools in their disciplines, including computerized information retrieval services, and write a research report of 3,000 to 5,000 words.

ENG 205 **GE COM**
INTRODUCTION TO JOURNALISM
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
Introduces the prospective reporter to the various forms of journalistic writing, including news and feature stories, editorials, and opinion columns. Students learn to recognize, weigh, gather, report and edit the news as they learn to develop, organize and publish their work as professional reporters, working on the staff of the College newspaper. In addition, they are introduced to the major historical trends in journalism as well as the ethical and moral issues that journalists face each day as they perform their job.

ENG 206
JOURNALISM WORKSHOP
3 credits (3-0)
Prerequisite: ENG 205 or permission of department chairperson
Should the department chairperson waive the prerequisite of ENG 122 and permit students to enter this course after completing ENG 121 only, ENG 122 will become a corequisite. An advanced course in journalism emphasizing the development of editorial skills and actual newspaper production. Membership on the school newspaper is required.

ENG 212 **GE HUM**
CHILDREN'S LITERATURE
3 credits (3-0)
Prerequisite: ENG 121. *It is strongly recommended that all degree students complete ENG 122 before registering for this course*
Surveys the field of children's literature. Covers many forms of this literature, both traditional and modern. Attention is given to ways of helping children enjoy literature.

ENG 214 **GE HUM**
JOURNALISM/WRITING FIELD EXPERIENCE
3 credits (2-6)
Prerequisites: ENG 205 or ENG 235 or BUS 205 and permission of department chairperson
Corequisite: ENG 206
A cooperative work experience through which students are employed in a professional writing or journalism position to gain the practical experience necessary for success in the field. Supervision of this departmentally approved position is provided by the College through the instructor's on-the-job visits and individual progress reviews. Students are required to establish learning objectives toward the attainment of specific job competencies. They attend a weekly one-hour seminar on campus and work a minimum of 180 hours during the semester.

ENG 215 **GE HUM**
SCIENCE FICTION
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
Significant works of science fiction like those of Shelley, Verne, Wells, Huxley, Asimov, Heinlein, and Bradbury are read and analyzed. Major topics include: science fiction as a literary genre, the advance of technology and its effects on society and the individual, and the scientist as evil genius.

ENG 220 **GE HUM**
DETECTIVE FICTION
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
A study of the "Who Done It?" as it evolved in America and spread through the world as a popular genre. Students read, analyze, and write about crime/mystery fiction with emphasis on the development of the character of the detective. Writers include but are not limited to: Poe, Conan Doyle, Hammett, Chandler, Chesterton, Freeman, Bramah, Futrelle, Ross MacDonald, McBain, Christie, Ibaranguoita, Sayers, P.D. James, Robert Parker, Simeon, Sjowall & Wahloo, Rendell, Stribling, Togawa, and Van der Wetering.

ENG 221 **GE HUM**
ENGLISH LITERATURE I
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
Works by major authors in English literature from the Anglo-Saxon period through 1789 are read and analyzed. Authors studied include the Beowulf poet, Chaucer, Shakespeare, Milton, the metaphysical poets, Swift and Blake.

ENG 222 **GE HUM**
ENGLISH LITERATURE II
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
Works by major authors in English literature from 1789 to the present are read and analyzed. Authors studied include Wordsworth, Shelley, Keats, Tennyson, Browning, Yeats, Joyce, and Eliot.

ENG 225 **GE HUM**
WORLD LITERATURE I
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 An introduction to masterpieces of world literature to 1500. A variety of cultural, intellectual, historical and literary perspectives are explored in selections by authors from Asia, Africa, and Continental Europe. Students complete reading, writing, and research assignments designed to develop the skills of literary interpretation and analysis.

ENG 226 **GE HUM**
WORLD LITERATURE II
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 An introduction to masterpieces of world literature from 1500. A variety of cultural, intellectual, historical and literary perspectives are explored in selections by authors from Asia, Africa, and Continental Europe and Latin America. Students complete reading, writing, and research assignments designed to develop the skills of literary interpretation and analysis.

ENG 227 **GE HUM**
LITERATURE OF BLACK AMERICA
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 The literature of the black American from African and Pre-Civil War songs and tales to the writers of the Reconstruction, the early 1900's, the Harlem renaissance, the WPA Writers' Workshop, and the new black writers of the 1990's.

ENG 228 **GE HUM**
MODERN BRITISH AND AMERICAN POETRY
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 British and American poets from the time of Dickinson through the 20th century are read and analyzed. Poets studied could include Dickinson, Whitman, Yeats, Frost, Stevens, Eliot, Hughes, Auden, Brooks, Ginsberg, Sexton, Rich, and Plath.

ENG 233 **GE HUM**
INTRODUCTION TO THE NOVEL
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 The novel from its earliest forms to the present. Authors include Fielding, Austen, Dickens, Melville, James, Flaubert, Dostoevski, Joyce and Faulkner. Works are analyzed in terms of genre, point of view, structure, characterization and theme.

ENG 234 **GE HUM**
INTRODUCTION TO SHAKESPEARE
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 An introduction to Shakespeare's dramas. Students read, discuss, and write about selected histories, comedies, and tragedies. Included is a discussion of the Elizabethan theater.

ENG 235 **GE HUM**
CREATIVE WRITING I
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 A basic course in creative and imaginative writing. Various literary forms are discussed and undertaken by the students. Student manuscripts are extensively analyzed and criticized.

ENG 236 **GE HUM**
CREATIVE WRITING II
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 A continuation of ENG 235. Various literary forms are discussed and undertaken. Student manuscripts are extensively analyzed and criticized by both students and instructor. Students focus on one major writing project. Various forms, techniques and styles of imaginative writing are discussed via an investigation of professional as well as student writing.

ENG 237 **GE COM**
ADVANCED WRITING WORKSHOP
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 An advanced writing course in which students continue to improve composition skills by interacting with both instructor and peers (including students from various curricula) to form a community of writers. Students are required to undertake sustained reading of books, periodicals, and monographs in their fields, and to complete research and other writing projects on topics related to their majors and fields of interest.

ENG 238
TECHNICAL WRITING
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 This advanced writing course is designed especially for the students majoring in the various A.S. and A.A.S. curricula (with the exception of business majors). The course enhances students' skills for technical communication projects with particular emphasis on informal and formal report writing. It emphasizes clarity, conciseness, objectivity and practicality of style.

ENG 239 **GE HUM**
WOMEN IN LITERATURE
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 Writers who have shaped woman as a literary image and spoken with a woman's voice in novels, short stories and poems.

ENG 243 **GE HUM**
LITERATURE OF THE UNITED STATES: BEGINNINGS TO 1880
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 A survey of works illustrating the literary experience in the United States from colonial times to 1880. Various cultural, intellectual, historical and literary perspectives are explored. Students complete reading, writing, and research assignments to develop the skills of literary interpretation and analysis.

ENG 244 **GE HUM**
LITERATURE OF THE UNITED STATES: 1880-1945
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 A survey of works illustrating the literary experience in the United States from 1880 to 1945. Various cultural, intellectual, historical and literary perspectives are explored. Students complete reading, writing, and research assignments to develop the skills of literary interpretation and analysis.

ENG 245 **GE HUM**
LITERATURE OF THE UNITED STATES: WORLD WAR II TO PRESENT
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 A survey of works illustrating the literary experience in the United States from World War II to the present. Students complete reading, writing, and research assignments about contemporary American authors such as Albee, Angelou, Baldwin, Brooks, Heller, Oates, O'Connor and Updike, whose works provide perspectives on the social, moral, and political changes taking place in contemporary society.

ENG 247 **GE HUM**
INTRODUCTION TO POETRY
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 Various types of poems—sonnets, concrete poems, epic poems, and epigrams—by a variety of poets such as Shakespeare, Donne, Keats, Frost, and Plath are read, listened to, written about, and discussed. While learning how such matters as meter, form, sound, image, biographical context, and visual appearance all help to create a poem's meaning, students learn to define their own reactions to poetry.

ENG 248 **GE HUM**
INTRODUCTION TO SHORT FICTION
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 Students read short fiction by various authors of the 19th and 20th centuries and discover ways of talking and writing about it. Concepts such as point of view, character and plot are introduced. Students learn how to read with greater appreciation and skill and to see literature as a means to understand themselves and their world.

ENG 249 **GE HUM**
BIOGRAPHY AND AUTOBIOGRAPHY
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 An examination through letters, memoirs, journals, autobiography, and biography of some of the seminal figures of our time. Through discussion and written response, the impact of cultural, ethnic, economic, and political factors on the individual and the expression of such influences as they emerge in the writings are analyzed. The readings focus on individuals who represent the following: artists (art, dance, music, film), authors/playwrights/poets, scientists, politicians/statesmen, religious/philosophical figures.

ENG 253 **GE HUM**
MYTHOLOGY IN LITERATURE
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 Myths of ancient cultures are read and discussed through some of their great epics, plays, poems and histories.

ENG 254 **GE HUM**
LITERATURE AND FILM
3 credits (3-0)
Prerequisite: ENG 122 or permission of the department chairperson
 Works by writers such as Steinbeck, Bronte, Warren, Shakespeare and Dickens and their transfer to film by such directors as Ford, Wyler, Rossen, Olivier, and Lean are studied. A study of the literary and cinematic approaches taken by each is included.

ENG 257**THE LITERATURE OF EVIL****3 credits (3-0)***Prerequisite:* ENG 122 or permission of the department chairperson

Works by writers such as Euripides, Shakespeare, Machiavelli, Marlowe, Milton, Hawthorne, Poe, Shelley, Blatty, Tryon, and O'Connor are studied. Students discuss various genres and types of evil characters as well as dominant motifs in the literature of evil.

GE HUM**ENG 258****MODERN DRAMATIC LITERATURE****3 credits (3-0)***Prerequisite:* ENG 122 or permission of the department chairperson

An introductory study of modern dramatic literature, including plays by Ibsen, Shaw, Chekhov, Brecht, Beckett, Williams, Miller and O'Neill. Major works are analyzed for literary style, form and content; discussions touch on topics such as alienation, theatre of the absurd, existentialism in drama, tragicomedy, dramatic irony, and tragedy of the common man, and the playwright as social agitator.

GE HUM**ENGLISH AS A SECOND LANGUAGE****ESL 010****BASIC ENGLISH AS A SECOND LANGUAGE****6 credit equivalents (4-2)**

Basic English language skills including attention to listening skills, basic conversation, basic structure and some elementary writing skills. Two hours of individualized work will be required in the ESL Learning Center in addition to class hours. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

ESL 019**INTERMEDIATE DISCUSSION/PHONOLOGY****3 credit equivalents (3-0)**

Oral communication at the intermediate level. Attention will be paid to pronunciation problems as well as to conversation techniques and strategies in different situations. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

ESL 020**ADVANCED DISCUSSION/PHONOLOGY****3 credit equivalents (3-0)**

Prerequisite: ESL 019 or permission of ESL chairperson
A continuation of ESL 019 designed for more advanced students. Pronunciation improvement will be emphasized along with conversational techniques and strategies. An oral presentation is required. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

ESL 031**ESL STRUCTURE/Writing I****4 credit equivalents (4-0)**

Prerequisite: ESL 010 or permission of ESL chairperson
Corequisite: ESL 041
Designed to develop skills in structure and writing at a low intermediate level. Students review basic structure and practice writing by combining sentences to form a good paragraph. Individualized work required in the ESL Learning Center in addition to class hours. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

ESL 032**ESL STRUCTURE/Writing II****4 credit equivalents (4-0)***Prerequisite:* ESL 031 or permission of ESL chairperson
Corequisite: ESL 042

A continuation of ESL 031 introducing more advanced structural items. Writing emphasis placed upon expanding paragraph development. Individualized work required in the ESL Learning Center in addition to class hours. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

ESL 033**ESL STRUCTURE/Writing III****4 credit equivalents (3-1)**

Prerequisite: ESL 084 or permission of chairperson
An advanced structure/writing course reviewing all of the structures covered in previous courses. Special attention made to the advanced structures necessary for good composition. Paragraph practice with an introduction to the various types of expository writing. Individualized work is required in the ESL Learning Center in addition to class hours. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

ESL 041**ESL READING/VOCABULARY I****4 credit equivalents (4-0)***Prerequisite:* ESL 010 or equivalent, or permission of ESL chairperson*Corequisite:* ESL 031

English as a second language. Vocabulary development is an integral part of this course. Emphasis on comprehension and vocabulary through context clues. Individualized work is required in the ESL Learning Center in addition to class hours. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

ESL 042**ESL READING/VOCABULARY II****4 credit equivalents (4-0)***Prerequisite:* ESL 041 or permission of ESL chairperson
Corequisite: ESL 032

Practice reading longer passages. Vocabulary development and emphasis upon comprehension, context clues and increased reading speed. Specific reading attack skills introduced for specific types of reading. Individualized work is required in the ESL Learning Center in addition to class hours. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

ESL 043**ESL READING/VOCABULARY III****4 credit equivalents (3-1)**

Prerequisite: ESL 085 or permission of chairperson
Review and utilize all of the skills developed in previous courses. Continued emphasis upon comprehension, advanced vocabulary development and increased reading speed. Students read and interpret advanced reading passages. Individualized work is required in the ESL Learning Center in addition to class hours. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

ESL 044**ESL READING/Writing****4 credit equivalents (3-1)**

Prerequisite: ESL 033 or permission of chairperson
Advanced course in reading/writing to improve composition skills through interpretation of reading passages. Students analyze readings and develop good expository essays in response to the readings. Individualized work is required in the ESL Learning Center in addition to class hours. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

ESL 060**LISTENING-INTENSIVE LEVEL I****3 credit equivalents (3-0)***Corequisites:* ESL 061 and 062

A beginning level listening course to help students comprehend basic interaction in a variety of contexts. Students acquire new vocabulary in addition to aural comprehension through classroom activities using tapes, workbook exercises, dictations, and participation in group communication activities.

ESL 061**PHONOLOGY-INTENSIVE LEVEL I****3 credit equivalents (3-0)***Corequisites:* ESL 060 and 062

Pronunciation at the beginning level. Students learn the vowel and consonant sounds of English and the ability to produce them correctly. Students practice transferring this knowledge to dialogues and short conversations. Methods of self monitoring and correction are taught.

ESL 062**DISCUSSION-INTENSIVE LEVEL I****3 credit equivalents (3-0)***Corequisites:* ESL 060 and 061

Oral communication at the beginning level. Students participate in social conversations and acquire basic vocabulary in order to communicate better. Appropriate cultural behavior will be discussed in the context of social interaction.

ESL 063**STRUCTURE-INTENSIVE LEVEL I****4 credit equivalents (3-1)***Corequisite:* ESL 064

A basic course in English structure in the context of listening, speaking, reading and writing. Approximately 1,000 vocabulary items are presented. Students are required to attend one hour of individualized work in the ESL Learning Center in addition to class hours.

ESL 064**WRITING INTENSIVE LEVEL I****4 credit equivalents (3-1)***Corequisite:* ESL 063

A basic course in writing. Students learn to write grammatically correct simple sentences. More complex sentences will be practiced later and guided writing will be done based upon pictures, personal experience and other stimuli.

ESL 071**PHONOLOGY-INTENSIVE LEVEL II****3 credit equivalents (3-0)***Prerequisite:* ESL 061 or permission of chairperson*Corequisite:* ESL 072

An intermediate course in pronunciation. Students review the vowel and consonant sounds, and intensive practice done on contrasting the different vowel sounds. Accented and unaccented syllables are addressed and practice starts on intonation.

ESL 072
DISCUSSION/CULTURAL ORIENTATION-INTENSIVE LEVEL II

3 credit equivalents (3-0)

Prerequisite: ESL 062 or permission of chairperson

Corequisite: ESL 071

A course in oral communication at the intermediate level. Attention paid to conversation techniques and strategies in different situations. Addresses the cultural conventions of communicating in American English.

ESL 073
STRUCTURE-INTENSIVE LEVEL II

4 credit equivalents (3-1)

Prerequisite: ESL 063 or permission of chairperson

Corequisites: ESL 071, 072, 074 and 075

A review of the basic structures in ESL 063 and an introduction to more advanced verb tenses and more complex and advanced structural items. Students required to attend one hour of individualized work in the ESL Learning Center in addition to class hours.

ESL 074
WRITING-INTENSIVE LEVEL II

4 credit equivalents (3-1)

Prerequisite: ESL 064

Corequisites: ESL 071, 072, 073, and 075

Develops skills in written structures at the intermediate level. Students review how to form a good sentence and then learn to combine these sentences to form a good paragraph. Students are required to attend one hour of individualized work in the ESL Learning Center in addition to class hours.

ESL 075
READING/VOCABULARY-INTENSIVE LEVEL II

3 credit equivalents (3-0)

Prerequisite: ESL 063

Corequisites: ESL 071, 072, 073, and 074

Introduces students to reading. Vocabulary development is an integral part of this course. Emphasizes comprehension and vocabulary through context clues.

ESL 083
STRUCTURE-INTENSIVE LEVEL III

4 credit equivalents (3-1)

Prerequisite: ESL 073 or permission of chairperson

Corequisites: ESL 084, 085, and 086

A continuation of ESL 073. Introduces additional advanced structural items. Covers all of the advanced verb tenses and students gain a good functional knowledge of American English grammar. Students are required to attend one hour of individualized work in the ESL Learning Center in addition to class hours.

ESL 084
WRITING-INTENSIVE LEVEL III

4 credit equivalents (3-1)

Prerequisite: ESL 074 or permission of chairperson

Corequisites: ESL 083, 085, and 086

A continuation of ESL 074. Emphasizes expanding paragraph development. Attention paid to more advanced, complex grammar in the context of writing. Students are required to attend one hour of individualized work in the ESL Learning Center in addition to class hours.

ESL 085
READING/VOCABULARY-INTENSIVE III

3 credit equivalents (3-0)

Prerequisite: ESL 075 or permission of chairperson

Corequisites: ESL 083, 084, and 086

Students practice reading longer passages than in previous courses. Emphasizes vocabulary development, comprehension, context clues and increased reading speed. Introduces specific reading attack skills for specific types of reading.

ESL 086
DISCUSSION/PHONOLOGY-INTENSIVE LEVEL III

3 credit equivalents (3-0)

Prerequisites: ESL 071 and 072 or permission of chairperson

Corequisites: ESL 083, 084, and 085

Advanced review of all the sounds of English and work on syllables, stress, and intonation. Addresses listening skills. Students have the opportunity to learn different conventions of communication through discussions. An oral presentation is required.

ENVIRONMENTAL TECHNOLOGY

ENV 201
ADVANCED WASTEWATER OPERATIONS I

3 credits (3-0)

Prerequisites: CHM 010, MAT 013, or a course in introduction to water and wastewater operations approved by the New Jersey Department of Environmental Protection

Covers topics such as wastewater and characteristics, flow measuring devices, physical treatment systems and sludge digestion and disposal. Both ENV 201 and 202 must be taken to make students eligible for the New Jersey State Wastewater Treatment Operator License exams. ENV 201 and 202 are not sequenced and may be completed in reverse order if desired.

ENV 202
ADVANCED WASTEWATER OPERATIONS II

3 credits (3-0)

Prerequisite: See ENV 201

Covers basic microbiology, biological treatment, advanced treatment processes, package plant operation, disinfection, and an approach to total treatment of wastewater. Both ENV 201 and 202 must be taken to make students eligible to take the New Jersey State Wastewater Operator License exams. ENV 201 and 202 are not sequenced and may be completed in reverse order if desired.

ENV 203
ADVANCED WATER OPERATIONS I

3 credits (3-0)

Prerequisite: See ENV 201

Sources of water and their characteristics, water cycle balance, reservoirs in New Jersey, surface and ground water supplies, methods of analysis, disinfection, tastes, and odors. Both ENV 203 and 204 must be taken to make students eligible for New Jersey State Water Operator License exams. ENV 203 and 204 are not sequenced and may be completed in reverse order if desired.

ENV 204
ADVANCED WATER OPERATIONS II

3 credits (3-0)

Prerequisite: See ENV 201

Water treatment operations including pretreatment and filtration, distribution systems, records, budgeting, and supervision. Both ENV 203 and 204 must be taken to make students eligible for the New Jersey State Water Operator License exams. ENV 203 and 204 are not sequenced and may be completed in reverse order if desired.

ENV 205
ATMOSPHERIC POLLUTION CONTROL

3 credits (2-3)

Prerequisites: BIO 118; CHM 118; MAT 014 or equivalent

Community air pollution, stressing problems and the technology used for their detection and control. Students are taught the use of air monitoring equipment and air sampling procedures. Effects on the community are considered on the basis of air quality standards.

ENV 206
ENVIRONMENTAL TECHNOLOGY LABORATORY

3 credits (3-5)

Prerequisites: CHM 117, ENV 201 and 202 or ENV 203 and 204

Study of laboratory procedures as applied to water supplies wastewater operations and air sampling and analysis. Covers both the theory and the laboratory techniques required to perform basic analyses of water supplies, wastewater, and air.

ENV 207 **GE SCI**
CONCEPTS OF ENVIRONMENTAL SCIENCE

3 credits (2-2)

An exploration of the possible causes and cures of all types of pollution in our society. Problems are reviewed from both a technological and an economic standpoint, focusing on private, municipal, and industrial operations that pollute the environment. A one-semester course for the career-oriented student.

ENV 208
COMMUNITY SANITATION

3 credits (2-2)

A survey of current community and environmental health problems with emphasis on communicable diseases, waste disposal, water and air pollution control, food sanitation and radiological health, and other topics. Contemporary federal and New Jersey state statutes regulating these activities are studied.

ENV 211 **GE SCI**
ENVIRONMENTAL SCIENCE I

4 credits (3-3)

Prerequisite: Two years of high school mathematics or MAT 013 and one year of high school laboratory science

Basic topics include the values, attitudes, and concepts necessary to understand and appreciate the interrelationships among people, their culture, and their biophysical environment. Emphasis is on the water and air environment. Includes laboratory and field trips. ENV 211 and 212 are not sequenced and may be completed in reverse order if desired.

ENV 212 **GE SCI**
ENVIRONMENTAL SCIENCE II

4 credits (3-3)

Prerequisite: Two years of high school mathematics and one year of high school laboratory science

Focuses on hazardous wastes, noise, radiation, energy, industrial hygiene and other miscellaneous environment areas of concern. Includes laboratory and field trips. ENV 211 and 212 are not sequential and may be taken in either order.

ENV 220
INDUSTRIAL HYGIENE

3 credits (2-3)

Prerequisite: CHM 118 or equivalent

An introduction to industrial hygiene, this course examines the sampling and analytical techniques required to evaluate the safety and health hazards associated with the chemical, physical, biological, and other stresses in the industrial environment. In addition, various control methods are considered.

ENV 221
HAZARDOUS WASTE MANAGEMENT

3 credits (3-0)

Covers in detail the Resource and Recovery Act regulations as they pertain to the generation, transportation, storage, and disposal of hazardous wastes.

ENV 222
WATER AND WASTEWATER ANALYSIS

3 credits (2-3)

Prerequisite: CHM 118 or equivalent

A systematic study of laboratory procedures as applied to water analysis and purification. Covers both the theory and the laboratory techniques required to perform all analysis needed to determine the sanitary characteristics of water from a variety of sources.

ENV 226
ENVIRONMENTAL TECHNOLOGY
CO-OPERATIVE EDUCATION
3 credits (1-12)

Prerequisite: ENV 201 or 203 and Chairperson's permission

Corequisite: ENV 202 or 204

A cooperative work experience program whereby the student is employed in a technical position in order to gain some of the practical experience necessary for success in Environmental Technology. Supervision of this approved position is provided by the College through on-the-job visits and individual progress review sessions. The student attends a weekly, one hour seminar on campus and works a minimum of 180 hours per semester. The student must be recommended by the faculty of the department in order to participate in this experience.

FINANCE

FIN 201
CREDIT AND COLLECTION PRINCIPLES
3 credits (3-0)

Prerequisite: ACC 101

A basic course in credit and collections. Nature and function of credit, types and classification of credit, principles of bank and commercial credit, factors of credit risk, sources of information, analysis of agency reports, interchange services, and collection procedures.

FIN 202
ADVANCED CREDITS
3 credits (3-0)

Prerequisite: FIN 201

Interpreting the financial statement including value and purpose of the financial statement and types of financial statement; the analysis of financial statements as a basis for credit; the use of ratios of sales and balance sheet relationships in the analysis of financial statements; comparative statement analysis; policies and organizations for collections; procedures in handling collections; collection correspondence; legal aid and processes to assist creditors; adjustments and use of adjustment bureaus; bankruptcy; insurance and guarantees; credit practices and policies of banks; factors and finance companies; foreign credits and collections; and the retail credit organization and procedures.

FIN 203
PROBLEMS IN CREDIT MANAGEMENT
3 credits (3-0)

Prerequisites: FIN 201 and 202

The everyday functions of an operating credit manager in personnel hiring, motivation, decision-making, presentation, financial analysis, funds flow, policy, and management problems. In-depth cases studies are utilized.

FIN 205
CREDIT AND FINANCIAL MANAGEMENT
FIELD EXPERIENCE I
3 credits (1-12)

A cooperative work experience program whereby students are employed in a credit or financial position in order to gain some of the practical experience necessary for success in the credit and financial management field. Supervision of this departmentally approved position is provided by the college through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their positions in order to attain specific job competencies. Students attend a weekly one-hour seminar on campus and work a minimum of 180 hours a semester. *Individuals must be recommended by the faculty of the department.* FIN 205 Credit and Financial Management Field Experience is offered as an alternative to BUS 107 Introduction to Business Data Processing.

FRENCH

FRE 121 **GE HUM**
ELEMENTARY FRENCH I
3 credits (3-0)

Systematic training in speaking, reading, and writing the French language. Laboratory work is required. *For students with no previous knowledge of French, or for those who have had less than two years of high school French.*

FRE 122 **GE HUM**
ELEMENTARY FRENCH II
3 credits (3-0)

Prerequisite: FRE 121
Continuation of FRE 121.

FRE 221 **GE HUM**
INTERMEDIATE FRENCH I
3 credits (3-0)

Prerequisite: FRE 122 or two years of high school French
Continuation of principles established during the first year: review of grammar, reading, and conversation. Emphasis on conversational activities, reading from selection literature, and original compositions. Laboratory work is required.

FRE 222 **GE HUM**
INTERMEDIATE FRENCH II
3 credits (3-0)

Prerequisite: FRE 221
Continuation of FRE 221.

FRE 224 **GE HUM**
CONTEMPORARY FRENCH LITERATURE
3 credits (3-0)

Prerequisite: FRE 221 or equivalent
Reading, analysis and discussion of works of representative Francophone writers from the late 19th and 20th centuries. Readings and discussions are primarily in French with a strong emphasis on the analysis of short stories, plays and poems of the modern era.

FRE 228 **GE HUM**
FRENCH CIVILIZATION AND CULTURE
3 credits (3-0)

Prerequisite: FRE 221 or equivalent
Readings, analysis and discussion of French civilization and culture of major periods from prehistoric times to the present. Readings and discussions primarily in French. Concurrent major developments in other cultures. *This course may be taken in lieu of FRE 222 to complete the modern language requirement for the A.A.*

FRE 231 **GE HUM**
FRENCH CONVERSATION AND
COMPOSITION I
3 credits (3-0)

Prerequisite: FRE 222 or a minimum of three years of high school French
An advanced course providing intensive training in speaking and writing colloquial French. Includes oral and written reports and discussions based on the reading of modern French literature.

FRE 232 **GE HUM**
FRENCH CONVERSATION AND
COMPOSITION II
3 credits (3-0)

Prerequisite: FRE 231
Continuation of FRE 231.

FIRE SCIENCE

FSC 103
INTRODUCTION TO FIRE PROTECTION
3 credits (3-0)

Introduces a history and philosophy of fire protection including a review of statistics of loss of life and property by fire; introduction to agencies involved in fire protection; chemistry of fire; building construction; fire protection systems and extinguishing agents; firefighting strategy and tactics; fire department organization and equipment; legislative developments; and the discussion of current related problems and future needs related to fire protection, including the study of legal rights, duties, liability concerns and responsibilities of fire department organizations.

FSC 204
BUILDING CONSTRUCTION
3 credits (3-0)

Prerequisite: FSC 103 or permission of instructor
Provides fire service personnel with an understanding of the basic principles of building construction and how design considerations and materials selection affect the life safety of both the building's occupants and fire fighters. The five different types of construction will be covered in detail; wood frame, ordinary, non-combustible, mill and fire-resistive. Case studies of catastrophic fire losses will be examined from the building construction viewpoint and new construction materials and techniques will be explored.

FSC 205
FIRE SERVICE HYDRAULICS
3 credits (2-2)

Prerequisites: FSC 103 and MAT 107 or permission of instructor
Application of physical laws to behavior of fluids with emphasis on pressure and velocity of flow. Capacities of mains, grids, layouts, and hose are studied as well as characteristics of pumpers to determine capability for delivery at the fire ground.

FSC 206
FIRE STRATEGY AND TACTICS
3 credits (3-0)

Prerequisite: FSC 103 or permission of instructor
Principles of fire control through preplanning and fire ground decision making: the "size up" emphasizes life safety of occupants and fire fighting personnel as well as effective utilization of manpower, apparatus, and equipment for preservation of life and confinement of fire. Case studies of fire ground decisions are reviewed.

FSC 207
HAZARDOUS MATERIALS OR THE FIRE
SERVICE
3 credits (3-0)

Prerequisites: CHM 107 and FSC 103 or permission of instructor
Chemical characteristics related to storage, transportation and handling of hazardous materials, i.e., flammables, combustibles, oxidizers, explosives, compressed gasses. Emphasizes emergency response, mitigation and fire suppression. Students will also receive certification in the AWARENESS and OPERATIONAL levels of haz-met responder requirements as per OSHA 1910.120. Provides introduction to the TECHNICIAN and INCIDENT COMMANDER levels will also be provided.

FSC 209
FIRE SUPPRESSION AND
DETECTION SYSTEMS
3 credits (3-0)

Prerequisite: FSC 103 or permission of instructor
Fundamentals of design and installation of fixed fire protection systems. Selection and application of fire suppression and detection systems as well as engineering principles are covered. Systems studied will include, but are not limited to: sprinkler, standpipe, dry chemical, foam, halon, carbon dioxide, smoke/heat/fire detection, evacuation/public address and explosion. Case studies address issues related to systems selection, installation, and maintenance.

FSC 210
FIRE AND ARSON INVESTIGATION
3 credits (3-0)
Prerequisite: FSC 103 or permission of instructor
 Fire causes, natural and accidental; fire and police investigation; orientation and introduction to arson and incendiaryism; laws of arson; technical analysis of arson and fraud; collection and preservation of evidence; photography, diagrams, and notes; interviewing and detention of witnesses; records, reports, briefs, and court procedures; arson prevention; processing of criminal evidence and pertinent procedures required by statute.

FSC 212
FIRE PREVENTION AND INSPECTION
3 credits (3-0)
Prerequisite: FSC 103 or permission of instructor
 Basic principles of fire prevention and inspection, emphasizing recognition of fire hazards, and the protection systems minimizing and/or coping with these hazards; includes methods of building inspection, enforcement of applicable laws, codes and ordinances and consideration of practical test facilities.

GERMAN

GER 121 GE HUM
ELEMENTARY GERMAN I
3 credits (3-0)
 Basic skills: listening, speaking, reading, writing. Supporting work in the language laboratory. *For students beginning German or with less than two years of German in high school.*

GER 122 GE HUM
ELEMENTARY GERMAN II
3 credits (3-0)
Prerequisite: GER 121
 Continuation of GER 121.

GER 221 GE HUM
INTERMEDIATE GERMAN I
3 credits (3-0)
Prerequisite: GER 122 or two years of secondary school German
 Review and continued study of grammatical structures. Practice in listening and reading skills; emphasis on speaking and writing based on modern German short stories and cultural topics. Supporting work in the language laboratory.

GER 222 GE HUM
INTERMEDIATE GERMAN II
3 credits (3-0)
Prerequisite: GER 221 or equivalent
 Continuation of GER 221.

GER 224 GE HUM
MODERN GERMAN LITERATURE
3 credits (3-0)
Prerequisite: GER 221 or equivalent
 Introduces major writers of the modern era; emphasis is on short stories by authors from Austria, Germany, and Switzerland.

GER 228 GE HUM
GERMAN CULTURE AND CIVILIZATION
3 credits (3-0)
Prerequisite: GER 221 or equivalent
 Survey of the major aspects of German culture and civilization, both historical and contemporary. Extensive use of media: film, slides, recordings.

GER 231 GE HUM
GERMAN CONVERSATION AND COMPOSITION I
3 credits (3-0)
Prerequisite: GER 222 or placement test achievement
 Emphasis on speaking and writing skills; vocabulary buildings in contemporary cultural, social, and literary contexts; expanded study of syntax and grammar through example and expression.

GER 232 GE HUM
GERMAN CONVERSATION AND COMPOSITION II
3 credits (3-0)
Prerequisite: GER 231 or equivalent
 Continuation of GER 231.

HEALTH

(For related courses, see Physical Education, Recreation and Dance)

HED 150 GE PED
CONTEMPORARY HEALTH ISSUES
3 credits (3-0)
 Examines health as a dynamic foundation of life having psychological, physiological and environmental dimensions. Using an individualized lecture and discussion approach that includes contemporary health topics: assessing personal health status and behavior, decision making in the health area, eliciting health promoting behaviors and interpreting existing or proposed social actions that affect all areas of health. Written and oral assignments are given to assist students in their quest for clear understanding of the topics. A research paper is required.

HED 200 GE PED
HUMAN SEXUALITY AND FAMILY LIFE
3 credits (3-0)
 Healthy family life with four major areas of concentration: interpersonal relationships, foundations of human growth and development, responsible personal behavior, and establishment of strong family life. Particular emphasis is given to the implication each area of concentration has on the health of the individual, family and community. A series of written critiques, panel discussions, and research papers are required.

HED 205 GE PED
NUTRITION FOR THE ACTIVE PERSON
3 credits (3-0)
 All areas of nutrition, as it affects the active person. Emphasizes the essential dietary nutrients, the body's nutritional reaction to increased activity demands, meal planning, body weight and composition, and long and short-term effects of nutrition. A research paper is required.

HISTORY

HIS 121 GE HUM
HISTORY OF WESTERN CIVILIZATION I
3 credits (3-0)
 The historical development of Western civilization from ancient times to approximately 1715 A.D. Emphasis is on the social economic, political, and cultural forces that helped to shape the West, beginning with the early Mediterranean civilizations and following through to the subsequent rise of European civilization.

HIS 122 GE HUM
HISTORY OF WESTERN CIVILIZATION II
3 credits (3-0)
 Europe and the world since 1715. Emphasis is on the emerging nation-state political system, the Industrial Revolution of the nineteenth century, and intellectual history of the nineteenth and twentieth centuries, the rise of totalitarianism in the twentieth century, and the world balance of power since 1914.

HIS 123 GE HUM
HISTORY OF NON-WESTERN CIVILIZATION IN EAST ASIA
3 credits (3-0)
 Traces the social, economic, political, and cultural forces that have shaped the cultures of the Far East from ancient times to the present. Emphasis is on the cultural interpenetration between these different ways of life in India, China, and Japan and the Civilization of the West. (For a similar study of the Third World see HIS 124.)

HIS 124 GE HUM
HISTORY OF NON-WESTERN CIVILIZATION IN THE THIRD WORLD
3 credits (3-0)
 Traces the social, economic, political, and cultural forces that shaped the cultures of the Third World from ancient times to the present. Emphasis is on the cultural interpenetration between ways of life in Pre-Columbian (Maya, Aztec, Inca) America, the Middle East and Africa and the Civilization of the West. (For a similar study of East Asia see HIS 123.)

HIS 130 GE HUM
HEALTH CARE AND MEDICINE IN THE WESTERN WORLD
3 credits (3-0)
 Examines the historical development of health and medical care in societies from the ancient Greek to the modern American. Emphasis on scientific and technological advancement, care of the ill, treatment of disease, and training of health care practitioners. Discussion of the values of each historical period and the relationships between social values, ethics and prescribed health care.

HIS 170 GE HUM
HEALTH CARE & MEDICINE IN THE WESTERN WORLD (HONORS)
3 credits (3-0)
Prerequisite: Students must have a GPA greater than 3.0 and approval of the chairperson
 Examine the historical development of health and medical care in societies, from the ancient Greek to the modern American. Emphasis on scientific and technological advancement, care of the ill, treatment of disease, and training of health care practitioners. Discussion of the values of each historical period and the relationships between social values, ethics and prescribed health care. Primary source documents and historiographical studies will be read as a basis for research and discussion.

HIS 171 GE HUM
EUROPEAN MILITARY HISTORY (HONORS)
3 credits (3-0)
Prerequisite: Students must have a GPA greater than 3.0 and approval of the chairperson
 A survey of the role of military conflict in shaping Western civilization from ancient times to the present. Examines the history of military conflict in its strategic, tactical and organizational aspects. Its interactions with the social, political, economic, technological and cultural dimensions of civilization will be given special emphasis. Theoretical work by contemporary analysts will be given close attention.

HIS 173 GE HUM
HISTORY OF EAST ASIA (HONORS)
3 credits (3-0)
Prerequisite: Students must have a GPA greater than 3.0 and approval of the chairperson
 An intensive investigation of the dynamic forces which shaped the history of East Asia from earliest times to the present. Special attention is given to political, socio-economic, and religious events and to cultural achievements that are pertinent to the comprehension of contemporaneous Asian societies.

HIS 174 GE HUM
HISTORY OF CIVILIZATION IN THE THIRD WORLD (HONORS)
3 credits (3-0)
Prerequisite: Students must have a GPA greater than 3.0 and approval of the chairperson
 An intensive investigation of the dynamic forces which shaped the history of civilization in the Third World from earliest times to the present. Special attention is given to political, socio-economic, and religious events and to cultural achievements that are pertinent to the comprehension of contemporaneous Third World societies, in Meso and South America, Africa and the Middle East.

HIS 202 **GE HUM**
**ANCIENT EGYPT'S HISTORY:
AN INTRODUCTION**
3 credits (3-0)

This survey traces the genesis, rise, and development of the high culture and dynastic civilization of pharaonic Egypt from the Predynastic Period through New Kingdom (approx. 3500 to 1000 B.C.). An interdisciplinary approach will be used that takes into account the effects that geography and topography had on Egypt's cultural development. Topics discussed will include language, religion, mummification, funerary architecture, and art. Course will be illustrated with slides as well as with artifacts and artifact-facsimiles.

HIS 221 **GE HUM**
UNITED STATES HISTORY I
3 credits (3-0)

Historical importance of the Puritan heritage, the American Revolution, the Constitution, Jacksonian democracy, Manifest Destiny, and the Civil War to understand pre-Civil War America.

HIS 222 **GE HUM**
UNITED STATES HISTORY II
3 credits (3-0)

Historical importance of Reconstruction, the rise of big business, the Progressive Movement, the World Wars, the New Deal, and the Cold War. Understanding American institutions and values from the Civil War to the present.

HIS 231 **GE HUM**
BLACK HISTORY
3 credits (3-0)

Historical material focusing on the impact that Blacks, as a historical force, have had on Western civilization, with an emphasis on the Black experience in the United States.

HIS 233
**INTRODUCTION TO
AFRICAN CIVILIZATIONS**
3 credits (3-0)

Investigates the historical development of African civilizations from ancient times to the emergence of the Slave trade. Emphasis is on the cultural, political, social, economic and topographical factors which shaped Africa and its subsequent influence in the west.

HIS 240 **GE HUM**
TECHNOLOGY AND WESTERN CULTURE
3 credits (3-0)

An introduction to the historical significance of technological development on the structure of modern society. The development, usage and impact of selected technologies as they relate to the historical development of Western Civilization.

HIS 245 **GE HUM**
HISTORY OF MAJOR WORLD RELIGIONS
3 CREDITS (3-0)

The origins, beliefs, and contemporary practices of Judaism, Christianity, Islam, Hinduism, Buddhism, Taoism, Confucianism, Shintoism. Attention is given to the interaction of specific religions and the cultures in which they are practiced.

HIS 256 **GE HUM**
HISTORY OF THE TWENTIETH CENTURY
3 credits (3-0)

Cultural and intellectual history, assessing the effect of historical events on the lives of individuals, as well as societies. Focus on increased government influence over the lives of its citizens, especially in the area politics and economics.

HIS 258 **GE HUM**
HISTORY OF WOMEN
3 credits (3-0)

The background of women in the Western world. The roles of women in various societies and upon the contributions made by women. Several women's movements are studied in detail.

HIS 271 **GE HUM**
**HISTORY OF WESTERN CIVILIZATION I
(HONORS)**
3 credits (3-0)

Prerequisite: Students must have a GPA greater than 3.0 and approval of the chairperson
Examines the people, events, ideas, literature and the arts in Western Civilization within a world context from preliterate times through 1715 A.D. Primary source documents and historiographical studies will be read as a basis for research and discussion.

HIS 272 **GE HUM**
**HISTORY OF WESTERN CIVILIZATION II
(HONORS)**
3 credits (3-0)

Prerequisite: Students must have a GPA greater than 3.0 and approval of the chairperson
An examination of the people, events, ideas, literature and the arts in Western Civilization within a world context from 1715 A.D. to the present. Primary source documents and historiographical studies will be read as a basis for research and discussion.

**HOTEL, RESTAURANT, AND
INSTITUTION MANAGEMENT**

HRI 101
**INTRODUCTION TO HOTEL, RESTAU-
RANT, AND INSTITUTION MANAGE-
MENT**
3 credits (3-0)

An introduction to the lodging and feeding industry: its history and development, current trends, its organization, its challenges and opportunities for service. Industry certification.

HRI 103
**PRINCIPLES OF FOOD SELECTION AND
PREPARATION**
3 credits (1-4)

A study of classification, selection, and preparation of foods. Emphasis on working techniques and the development of professional skills.

HRI 105
BASIC NUTRITION
3 credits (3-0)

Principles of nutrition including the various essential nutrients in foods and their functions in the human body. *A minimum grade of "C" or better for course requirements.*

HRI 107
BAKING FUNDAMENTALS
3 credits (1-5)

Prerequisite: HRI 103
Practical baking fundamentals for quality and quantity production of sweet dough, breads, pies, cakes, pastries and specialty bakery and dessert products, including cake decorating.

HRI 108
QUANTITY FOOD PRODUCTION
3 credits (1-4)

Prerequisite: HRI 103
The study and application of techniques, standards, and principles of quantity cookery. Emphasis is on the flow of food production through the kitchen, of foodservice operations, and the development of skills in the culinary arts.

HRI 110
**SUPERVISORY DEVELOPMENT IN THE
LODGING & FOODSERVICE INDUSTRY**
3 credits (3-0)

An introduction to the principles of effective supervision by today's hospitality managers. Supervisory skills that impact the working relationships between supervisors and employees. Industry certification.

HRI 111
FOOD PREPARATION PRACTICUM
3 credits (1-13)

Prerequisite: HRI 103

A practicum designed to develop and refine professional food preparation and production skills through an approved on-site industry experience. Learning activities are planned, supervised and evaluated by qualified chefs and/or food production managers in coordination with the program director.

HRI 114
GARDE MANGER
3 credits (1-5)

Prerequisite: HRI 103

Decorating foods and platters for a la carte and buffet production. Food specialties such as sculptures, aspics, pates, chateaufroids, terrines, galantines and sauces are prepared.

HRI 115
FOODSERVICE OPERATIONS
3 credits (3-0)

Introduction to the restaurant and catering business including terminology, principles of foodservice management and elements of dining room service.

HRI 201
**HOTEL-MOTEL FRONT OFFICE OPERA-
TIONS**
3 credits (2-2)

Prerequisite: BUS 107

Theory and practice in front office management for small and large properties. Function and operation of systems and equipment used in the front office through the complete guest cycle. Practical applications of management concepts through lab exercises and computer simulation. Industry certification.

HRI 202
FACILITIES LAYOUT AND DESIGN
3 credits (2-2)

Study of physical property, selection, design, operation, and maintenance of equipment essential for hotel, restaurant, and institution operations.

HRI 203
**VOLUME FOOD MANAGEMENT AND
PRODUCTION**
4 credits (2-4)

Prerequisite: HRI 108

The organization and management techniques for distribution and service of food, sanitation and safety, menu planning, employee relationships. Includes actual experience in conducting luncheons catered by students in the curriculum.

HRI 204
**SEMINAR AND COOPERATIVE
WORK EXPERIENCE**
3 credits (1-12)

Prerequisites: HRI 101, 103 and 208 or permission of chairperson

A critical review and analysis of operations, materials, and equipment based on current reports in trade journals and periodicals. Discussion of employment experiences in industry. The influence of menu and clientele on preparation and functions of management in the food and lodging industry. One lecture hour a week on campus and minimum of 180 hours a semester on related work experience.

HRI 205
FOOD AND BEVERAGE CONTROLS AND PURCHASING
3 credits (2-2)

Food controls and the importance of purchasing, receiving, storing, and issuing. The utilization of employees and maintenance of records to control food and labor costs. Industry certification.

HRI 206
MERCHANDISING FOR THE HOSPITALITY INDUSTRY
3 credits (2-2)

Principles and practices of public hospitality merchandising. Use of advertising and promotional media as related to internal and external sales. Laboratory practice in creating promotional materials.

HRI 207
WINES, SPIRITS, AND BEERS
3 credits (2-2)

A study of wine, spirits, and beer: what they are, how they are produced, how they are served and used, and regulations controlling beverages. *Students must be 21 years old.*

HRI 208
ENVIRONMENTAL SANITATION IN FOOD SERVICE OPERATIONS
3 credits (3-0)

Techniques and procedures for employing hygienic practice in food service including food sanitation and microbiology, food spoilage and food-borne illnesses, and education and training in sanitation of food service personnel. Industry certification.

HRI 210
NUTRITION IN MODIFIED DIET
3 credits (3-0)

Prerequisite: HRI 105
Relationship of the principles of nutrition to special and abnormal physical conditions. The various types of school lunches, hospital diets, geriatrics, and related problems are explored.

HRI 213
HEALTH FACILITIES FOOD SERVICE MANAGEMENT
3 credits (3-0)

The organization of a hospital dietary department including the various types of food services available.

HRI 215
BEVERAGE MANAGEMENT
3 credits (2-2)

An introduction to planning, equipping, staffing, operating, and marketing, regulations and terms of the trade as they relate to purchasing, control, merchandising and bar management. The identification, use and service of wines and other alcoholic beverages.

HRI 216
HOSPITALITY PROPERTY MANAGEMENT
3 credits (3-0)

Property management including the care of guest rooms, and public space, security, parking, laundry, recreation rooms, and pools, and other outdoor recreation facilities with emphasis in staffing, equipment, capital investment, rentals and renovations.

HRI 217
SUPERVISORY HOUSEKEEPING
3 credits (3-0)

The fundamentals of housekeeping management. Management functions, tools and practices required in lodging and institutional housekeeping departments. Industry certification.

HRI 220
TRAINING DEVELOPMENT OF HOSPITALITY MANAGEMENT
3 credits (3-0)

Training needs in the hospitality industry. The systematic design of instruction, the evaluation of training programs, and management of the training function. Industry certification.

HRI 250
LAW FOR HOSPITALITY OPERATIONS
3 credits (3-0)

A basic course in hotel, motel, and restaurant law. Introduces fundamental laws, rules and regulations applicable to the hospitality industry.

HEATING, VENTILATING AND AIR CONDITIONING DESIGN TECHNOLOGY

HVA 101
AIR CONDITIONING, REFRIGERATION AND HEATING PRINCIPLES I
4 credits (3-3)

Prerequisite: MAT 013
Basic refrigeration and air conditioning principles and system components. Topics include: Properties of Matter, Refrigeration Systems, Refrigerant Controls, Fundamentals of Electricity and Magnetism, Electric Motors and Refrigerant. Laboratory projects present experimental learning through a hands-on approach to illustrate and reinforce the lecture topics.

HVA 102
AIR CONDITIONING, REFRIGERATION AND HEATING PRINCIPLES II
4 credits (3-3)

Prerequisite: HVA 101
A continuation of HVA 101. Covers commercial refrigeration, air conditioning and heating systems. Topics include: Commercial System Components, Heating and Cooling Load Analysis utilizing computers and standard forms, use of the Psychometric Chart, Air Conditioning and Heating System Components, Filtration Systems, Concepts of Air Duct Systems and Solar Energy Systems. Laboratory projects present experimental learning through a hands-on approach to illustrate and reinforce the lecture topics.

HVA 106
HVAC DRAFTING
2 credits (0-6)

Prerequisite: MEC 123 or equivalent
A continuation of MEC 123. Emphasis is on the specialized topics used in the HVAC industry. Topics include: reading building construction drawings (particularly mechanical plans), orthographic and isometric ductwork drawings, sectional drawings and details, standard HVAC symbols, sheet metal developments, electrical control diagrams, and HVAC specifications. Laboratory time is divided between using the conventional drafting board and the computer aided drafting system.

HVA 201
HVAC DESIGN PRINCIPLES I
4 credits (3-3)

Prerequisites: HVA 102 and MAT 108
An introduction to the design principles necessary for designing heating, refrigeration, and air conditioning systems. A survey of the scope of the HVAC industry precedes the topics of heating load analysis, boilers and furnaces, hydronic piping systems, cooling load analysis and Psychometrics analysis. Laboratory design projects included.

HVA 202
HVAC DESIGN PRINCIPLES II
4 credits (3-3)

Prerequisite: HVA 201
A continuation of design principles covered in HVA 201. Topics include: fluid flow in pipes and ducts, fan and air distribution devices, centrifugal pumps, expansion tanks, air conditioning system design, refrigeration system design, energy conservation, planning and designing HVAC systems, and solar energy system design. Laboratory design projects included.

HVA 203
HVAC EQUIPMENT LABORATORY
1 credit (0-3)

Prerequisite: HVA 102
Performance testing and evaluation of air conditioning, refrigeration and heating systems. Laboratory projects include the analysis of: solar energy systems, cooling towers, commercial air and water cooled refrigeration systems, ductwork systems, and various heating and cooling systems. Oral presentation required.

HVA 204
MECHANICAL ESTIMATING AND PLANNING
3 credits (2-3)

Corequisite: HVA 202
An introduction to the techniques and practices of quantity take-offs and cost estimates of mechanical systems including sheet metal, piping, electrical, site utility work, materials, HVAC equipment and labor. Bids are prepared at the budget stage, conceptual stage, and final design stage. Bidding strategies, labor and material problems, and energy management systems are discussed. Projects are planned utilizing the critical path method and cost engineering methods.

HVA 210
THERMODYNAMICS OF REFRIGERATION
3 credits (3-0)

Prerequisite: MAT 108
Thermodynamics analysis of the mechanical refrigeration cycle and its associated equipment. Topics include: Properties of Matter, Ideal Gas Processes, The First & Second Laws of Thermodynamics, Mollier and p-h Diagrams, Psychometric Properties of Air, Reciprocating Compressors, Evaporators, System Equilibrium, Condensers and cooling Towers.

INDUSTRIAL TECHNOLOGY

IND 103
OCCUPATIONAL SAFETY AND HEALTH AND THE OSHA LAW
3 credits (3-0)

A study of the requirements and implications of The Occupational Safety and Health Act (OSHA) on the working environment. Topics included are accident causes and costs, workman's compensation, controlling unsafe acts and conditions, OSHA standards, inspection rights, enforcement procedures, and penalties.

IND 104
INSPECTION TECHNIQUES
3 credits (2-2)

A study of the selection, operation, and use of measuring instruments, mechanical, pneumatic, optical, and electronic gauges and non-destructive tests utilized by inspectors to control product quality. Laboratory assignments provide hands-on experience in the selection, set-up, and use of inspection tools for checking manufacturing specifications.

IND 105 INDUSTRIAL GRAPHICS AND SPECIFICATIONS

2 credits (1-3)

A fundamental graphical language course interpreting industrial drawings and specifications. Topics include detail and assembly drawings, bills of materials, tolerances, fit of mating parts, surface quality, welding, piping, and sheetmetal drawings, and drawings of mechanical components such as gears, cams, etc. Laboratory assignments supplement the lecture material.

IND 203 STATISTICAL QUALITY CONTROL I

3 credits (3-0)

A two-course sequence that provides students with the tools necessary to apply statistics to quality control problems. Topics include objectives of statistical quality control, fundamental statistical concepts, and fundamental concepts of probability. Laboratory assignments supplement the lecture material.

IND 204 STATISTICAL QUALITY CONTROL II

3 CREDITS (3-0)

Prerequisite: IND 203

A continuation of IND 203. Topics include quality control charts, acceptance sampling, aspects of life testing, reliability and cost of quality decisions. Laboratory assignments provide hands-on experience in quality control.

IND 207 QUALITY CONTROL CONCEPTS AND TECHNIQUES

3 credits (3-0)

An introduction to the concepts and techniques of quality control as used in industry today. Topics include quality policies and objectives, economics, organization, maintenance, reliability and specifications of quality control.

ITALIAN

ITA 121 GE HUM ELEMENTARY ITALIAN I

3 credits (3-0)

Use of integrated materials allows students to acquire and employ the fundamentals of speaking, reading and writing the language. Laboratory work is required. *For students with little or no knowledge of Italian.*

ITA 122 GE HUM ELEMENTARY ITALIAN II

3 credits (3-0)

Prerequisite: ITA 121

A continuation of ITA 121. Use of integrated materials allows students to acquire and employ the fundamentals of speaking, reading and writing the language. Laboratory work is required.

ITA 221 GE HUM INTERMEDIATE ITALIAN I

3 credits (3-0)

Prerequisite: ITA 122 or two years of high school Italian
A review and reinforcement of the principles established on the elementary level: emphasis on conversational activities, readings from selected works of literature and compositions.

ITA 222 GE HUM INTERMEDIATE ITALIAN II

3 credits (3-0)

Prerequisite: ITA 221 or equivalent

A review and reinforcement of the principles established on the elementary level: emphasis on conversational activities, readings from selected works of literature and compositions.

LEGAL TECHNOLOGY

LET 100 INTRODUCTION TO LEGAL ASSISTING

2 credits (2-0)

An introduction to the functions and duties of the legal assistant. Students explore the regulation of legal assistants, ethics, privilege and ABA considerations. Students are introduced to the court system and law office routines.

LET 101 LEGAL RESEARCH AND WRITING

3 credits (3-0)

Prerequisites or Corequisites: ENG 121 and LET 100

An introduction to the functions and duties of the legal assistant. Students explore the American legal system and are introduced to the New Jersey court system. Students use the law library including encyclopedias, reporter systems, digests, and practice manuals including updating sources. Students are introduced to the use of computer assisted research by use of WESTLAW including reporter systems, statutes, administrative codes, updating sources and extended databases.

LET 104 PROPERTY TRANSACTIONS

3 credits (3-0)

Prerequisite: LET 101

Forms and procedures used in real and personal property transactions including Real Estate Settlement Procedures Act.

LET 105 FAMILY LAW

3 credits (3-0)

Prerequisite: LET 101

An introduction to the substance and procedural aspects of family law in such areas as divorce, adoption, support and separation agreements, including domestic relation court procedures.

LET 106 WILLS AND ESTATE ADMINISTRATION

3 credits (3-0)

Prerequisite: LET 101

Substance and procedure with respect to wills, estates, trusts, probate, life insurance, and federal and state taxes.

LET 107 LAW OFFICE MANAGEMENT

3 credits (3-0)

Prerequisite: LET 101

Students learn the basics of law office management including accounting procedures, scheduling, filing, and office systems and many other areas.

LET 108 TORTS

3 credits (3-0)

Prerequisite: LET 101

A study of the principles of tort law, their application in commonly faced situations in law practice, and the role of the legal assistant in the preparation of a tort claim or defense.

LET 109 CRIMINAL LAW AND PROCEDURE

3 Credits (3-0)

Prerequisite: LET 101

Introduction to the elements of crime and the criminal procedure system. A study of the incidents before and after trial, and an analysis of the impact of the constitution on crimes and criminal procedure.

LET 110 LITIGATION PROCEDURE

4 credits (4-0)

Prerequisite: LET 101

Covers the rules governing courts and basic litigation procedures including telephone technique, client interviews, complaints, interrogatories, etc.

LET 111 CONTRACTS AND THE UNIFORM COMMERCIAL CODE

3 credits (3-0)

Prerequisite: LET 101

Detailed study of the substantive law of contracts, sales law, and commercial paper. (In applicable areas, the Uniform Commercial Code is covered as well as the common law principles.) Emphasis is placed on source materials, research and writing. Legal principles are applied to theoretical problems as well as current New Jersey cases.

LET 112 BUSINESS ORGANIZATIONS AND GOVERNMENT REGULATIONS

3 credits (3-0)

Prerequisite: LET 111

Detailed study of the substantive law of agency and employment, security devices, bankruptcy, partnerships and corporations. (In applicable areas the Uniform Construction Code is covered as well as the common law principles.)

LET 208 LEGAL ASSISTANT FIELD EXPERIENCE

3 credits (1-12)

Prerequisites: LET 101, 104, 108 and 110

A cooperative work experience whereby students are employed in law-related positions to gain some of the practical experience necessary for success as legal assistants. Supervision of these departmentally approved positions is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their positions to effect the attainment of specific job competencies. Students attend a weekly, one-hour seminar on campus and work approximately 20 hours a week for a minimum of 180 hours during the semester. *Individuals must be recommended by the faculty of the department.*

LET 280 SENIOR SEMINAR FOR LEGAL ASSIS- TANTS

3 credits (3-0)

Prerequisites: LET 101, 104, 108, 110, 111, 112

Students integrate their knowledge of theoretical concepts and practical application of legal research, litigation, property, torts, and business law through case analysis and the completion of assigned projects.

LAND SURVEYING TECHNOLOGY

LST 150 ROUTE SURVEYING

3 credits (3-0)

Prerequisite: CIT 205

Basic principles and practical applications of route selection; simple, compound and reverse curves; parabolic curves; earthwork, realignment problems; reconnaissance, base lines and strip mapping; alignment, misc. route survey (power lines, tunnels, pipe lines, simple spirals, photogrammetry in route surveying).

LST 250 BOUNDARY LAW I

3 credits (3-0)

An introductory course which analysis elements of boundary law, consisting of legal research, evidence, procedures and the synthesis needed for the surveying of land.

MARKETING ART AND DESIGN

(See also ART 103)

MAD 105 MECHANICAL ART 3 credits (1-5)

An introduction to the basic tools and techniques of linework, geometric constructions and mechanical artwork. Areas covered include: lettering, perspective constructions, mechanicals and paste-ups, charts and graphs. Practical exercises develop accuracy and neatness in the preparation of instrumental drawings. Practice problems in the preparation of basic mechanical art for printers demonstrate how to meet reproduction needs.

MAD 107 PHOTOGRAPHY I 3 credits (2-3)

A basic course in the theory and technicalities of still, studio, and hand cameras: lighting, exposure, processing, and printing, including basic photo chemistry. Students use complete film darkroom and printing darkroom facilities.

MAD 108 PHOTOGRAPHY II 3 credits (2-3)

Prerequisite: MAD 107
Creative visual communication combined with practical techniques of both black-and-white and color photography. Practice problems are related to student options: advertising design students - toward process camera work; commercial photography students - toward more darkroom work, including processing color slides and film.

MAD 111 COLOR AND DESIGN I (Two-Dimensional) 3 credits (1-5)

An introduction to principles and characteristics of color and design. The color separation process is also introduced. Two-dimensional surfaces and their compositional possibilities are studied and related to increasingly complex graphic concepts.

MAD 112 COLOR AND DESIGN II (Three-Dimensional) 3 credits (1-5)

Prerequisite: MAD 111
Three dimensional organization and new form and structural possibilities. Color experiments in various three-dimensional media.

MAD 117 FREEHAND DRAWING 3 credits (1-5)

Drawing for the purpose of developing graphic skill, vocabulary, and imaginativeness. Practice problems in thumbnail sketching are included.

MATHEMATICS

MAT 009 BASIC MATHEMATICS ALTERNATIVE

(See description below for MAT 010.)
Computer assisted instruction and supplementary materials will be integral parts of the program.

MAT 010 BASIC MATHEMATICS 3 credit equivalents (3-0)

Basic arithmetic computational skills. Covers addition, subtraction, multiplication, and division of whole numbers, fractions and decimals. Includes ratio and proportion, percentage, measurement, geometric figures, a brief introduction to algebra, and basic descriptive statistics. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

MAT 010 BASIC MATHEMATICS ALTERNATIVE (Offered in Winter & Summer Sessions Only) 1 credit equivalent (1-0)

Prerequisite: A score of 13 or better on the computation section of the New Jersey College Basic Skills Placement Test and permission of instructor or the Office of Continuing Studies

A one-week version of MAT 010. The topics covered are addition, subtraction, multiplication, and division of whole numbers, fractions, and decimals; ratio and proportion, percentage, average, arithmetic mean, approximation, square roots, and measurement of common geometric figures. "C" is the minimum accepted grade for movement from one remedial/developmental level to another and for completion of remedial/developmental requirements needed to qualify for credit courses.

MAT 013 ALGEBRA I 4 credit equivalents (4-0)

Prerequisite: MAT 010 or passing score on placement examination

Covers topics in elementary algebra: integral, irrational and complex numbers, basic geometry, techniques of graphing and solving linear equations, inequalities, polynomials and functions and their operations, special products and factoring, fractional expressions and equations, quadratic equations and methods of solutions, scientific notation and radical expressions. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

MAT 013 ELEMENTARY ALGEBRA (Offered in Winter & Summer Sessions Only) 1 credit equivalent (1-0)

Prerequisites: MAT 010 or equivalent and a score of 12 or better on the algebra portion of the NJCBSPT

Covers elementary algebra including: integral, rational and irrational numbers, techniques of graphing and solving linear equations, polynomials and their operations, special products and factoring, fractional expressions and equations, quadratic equations and methods of solutions, radical expressions, and inequalities. A one-week version of MAT 013.

MAT 014 ALGEBRA II 4 credit equivalents (4-0)

Prerequisite: MAT 013, equivalent, or passing score on placement examination

Covers the topics of intermediate algebra: polynomials, fractional expressions and equations, exponents, powers, roots, quadratic equations and functions, logarithmic and trigonometric functions and an introduction to computer software. The use of a calculator is essential. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

MAT 020 GEOMETRY credit equivalent (3-0)

Prerequisite: MAT 013

A traditional high school geometry course for students who have successfully completed one year of high school algebra or equivalent. Includes an understanding of Euclidean geometry with topics such as basic proofs, congruent triangles, parallel and perpendicular lines, lines and planes in space, polygons, circles, and the Pythagorean Theorem. Optional topics include logic and construction. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.

MAT 101 FRESHMAN MATHEMATICS I 3 credits (3-0)

Prerequisite: Passing score on New Jersey Basic Skills Test, two years of high school mathematics or MAT 013 or departmental approval

Survey topics of inductive and deductive reasoning, calculators and computers, number systems, and consumer arithmetic. The first half of a two-semester course designed primarily for liberal arts students planning a year's study of college level mathematics.

MAT 102 FRESHMAN MATHEMATICS II 3 credits (3-0)

Prerequisite: MAT 101

A continuation of MAT 101. A survey course of algebra, topology, probability and statistics. Designed primarily for liberal arts students planning a year's study of college level mathematics.

MAT 104 MATHEMATICS IN THE ELEMENTARY SCHOOL 3 credits (3-0)

Prerequisite: Passing score on the New Jersey Basic Skills Test or successful completion of MAT 013

An introduction to basic mathematics for para-professionals. Includes the teaching of arithmetic operations in those number systems appropriate for the elementary school, problem-solving techniques for the development of mathematical concepts, and the use of instructional aids.

MAT 107 MATHEMATICS I 3 credits (3-0)

Prerequisite: Passing score on the New Jersey Basic Skills Test, MAT 013, or departmental approval
Basic mathematics with an emphasis on the technical, manipulative skills that are required in a technological society. Emphasis is on understanding concepts in each of the many application-oriented problems.

Stresses the importance of precision, accuracy, and the clear presentation of results. Topics include arithmetic operations, measurement, rounding, conversions, fractions, decimals, percents, ratio, proportion, scientific notation, use of calculators, metric system, solving linear equations, and pairs of equations, and graphic linear equations. The first semester of a two-semester course.

MAT 108 MATHEMATICS II 3 credits (3-0)

Prerequisite: MAT 107

A continuation of MAT 107. Basic mathematics stressing manipulative, technical math skills. Presents many more technological applications with an emphasis on understanding basic principles. Topics include solving quadratic equations, graphic quadratic, logarithmic, and exponential functions, essentials of trigonometry and selected geometry problems, and many topics from statistics: frequency distribution, presentation of statistical data (graphs, charts, tables) measures of central tendency, measures of dispersion, normal distribution, binomial distribution, hypothesis testing, and sampling.

MAT 109 **GE MAT**
COLLEGE ALGEBRA AND
TRIGONOMETRY I
3 credits (3-0)

Prerequisites: Passing score on the New Jersey Basic Skills Test, MAT 014, at least two years of high school algebra, satisfactory score on placement examination, or departmental approval

Prepares students for calculus. Its purpose is to make students aware of the concepts and skills needed in a technological society. Some essential topics are linear, quadratic, and trigonometric functions, vectors, solutions of triangles, and use of the calculator. Additional topics include use of determinants and technical applications. *The first semester of a two-semester course.*

MAT 110 **GE MAT**
COLLEGE ALGEBRA AND
TRIGONOMETRY II
2 credits (2-0)

Prerequisite: MAT 109 or equivalent

A continuation of MAT 109. Essential topics are quadratic, trigonometric, exponential and logarithmic functions and their graphs, and use of the calculator. Additional topics include complex numbers, statistics, and graphing including the use of logarithmic graph paper.

MAT 112
UNIFIED CALCULUS I
3 credits (3-0)

Prerequisite: MAT 110 or equivalent

An introduction to calculus with topics from analytic geometry, with a special emphasis on technical applications. Essential topics include equations of lines and circles, development of the derivative of polynomial and transcendental functions, derivative applications such as curve sketching, maxima-minima problems, related rates, development of the integrals of polynomials, and integral applications such as area under curves. Additional topics are applications such as volumes, centroids, moments of inertia, and inverse trigonometric functions.

MAT 123 **GE MAT**
INTRODUCTION TO PROBABILITY
AND STATISTICS
3 credits (3-0)

Prerequisite: Passing score on New Jersey Basic Skills Test, MAT 014, at least two years of high school algebra, satisfactory score on placement examination, or departmental approval

Provides a foundation in statistics for liberal arts, business, computer science and science students. Topics covered are probability distributions (binomial, normal, and Poisson), and expected value, random variable, organization of data using graphs and descriptive statistics (mean, median, mode & variability). *The first semester of a two-semester course.*

MAT 124 **GE MAT**
STATISTICS
3 credits (3-0)

Prerequisite: Either MAT 123, or equivalent, or departmental approval

A continuation of MAT 123. An introduction to descriptive statistics, sampling distributions, the central limit theorem, hypothesis testing, z and t statistics, Chi square, analysis of variance, regression and correlation, and some topics in non-parametric statistics. Students are encouraged to assume the role of a statistician, plan an experiment centered about their interest, and make inferences about a population based upon sample data collected.

MAT 125 **GE MAT**
MATHEMATICS FOR DECISION
SCIENCES I
3 credits (3-0)

Prerequisite: Passing score on New Jersey Basic Skills Test, MAT 014, at least two years of high school algebra, satisfactory score on placement examination, or departmental approval

Familiarizes students with mathematical models and the applications. Topics introduced in the first semester are functions, linear algebra models and applications, linear programming, sets, probabilistic models, games, decision making schemes, and number systems. Topics stress discrete mathematics. *The first semester of a two-semester sequence designed for students interested in mathematical modeling (for example, students in computer science, mathematical sciences, applied mathematics, social sciences, etc.).*

MAT 126 **GE MAT**
MATHEMATICS FOR DECISION
SCIENCES II
3 credits (3-0)

Prerequisite: MAT 125

A continuation of MAT 125. Familiarizes students with the mathematical models and their applications that occur in more advanced courses and in selected professions. Topics introduced in the second semester are calculus and calculus models, applications to physical, economics, and social science problems, descriptive statistics and the normal distribution. Topics stress continuous mathematics.

MAT 127
PRECALCULUS I
2 credits (2-0)

Prerequisites: Passing score on the New Jersey College Basic Skills Placement Test and MAT 014 or at least two years of high school algebra, satisfactory score on placement examination, or departmental approval

The first half of a two semester precalculus course designed to give students extended enrichment to prepare for a first course in calculus. Emphasis is on algebra topics to develop skills properly for a thorough understanding of the algebra and trigonometry concepts needed to study calculus. Topics include the algebraic functions and their graphs. Of special interest are the characteristics of polynomials and rational functions.

MAT 128
PRECALCULUS II
3 credits (3-0)

Prerequisite: MAT 127 or an equivalent course

The second half of a two semester precalculus course designed to give students extended enrichment to prepare for a first course in calculus. Emphasis is on the graphs and properties of exponential, logarithmic and trigonometric functions. The mathematical concepts underlying algebraic and trigonometric procedures are studied in order to prepare for proper understanding of the methods used in calculus.

MAT 129 **GE MAT**
PRECALCULUS
4 credits (4-0)

Prerequisite: Passing score on New Jersey Basic Skills Test, MAT 014, at least two years of high school algebra, satisfactory score on placement examination, or departmental approval

Emphasis is on those topics from algebra and trigonometry that best prepare students for the first course in calculus. The areas of study are algebraic and transcendental functions and their graphs. Of special interest are polynomials, rational, exponential, logarithmic, and trigonometric functions. Additional topics include vectors, the polar coordinate system, matrices, and determinants.

MAT 131 **GE MAT**
ANALYTIC GEOMETRY AND CALCULUS I
4 credits (4-0)

Prerequisite: Passing score on New Jersey Basic Skills Test, Mat 129 or equivalent, or four years of high school mathematics or equivalent or departmental approval

Presents fundamental ideas of calculus such as the derivative, integral, and their applications. Topics include fundamentals of analytic geometry. *The first course in a sequence of calculus courses intended for the student interested in mathematics, engineering, and the natural, physical and social sciences.*

MAT 132 **GE MAT**
ANALYTIC GEOMETRY AND CALCULUS II
4 credits (4-0)

Prerequisite: MAT 131 or equivalent

Topics include trigonometric and hyperbolic functions, areas, centroids, techniques of integration, parametric curves and vectors, indeterminate forms, Taylor's formula, infinite series and topics in analytic geometry. *Recommended for students majoring in engineering, mathematics, computer science, social sciences, and the science related areas of chemistry and physics.*

MAT 206
INTRODUCTION TO DISCRETE
MATHEMATICS
4 credits (4-0)

Prerequisite: MAT 132 (or approval of department chairperson of mathematics)

An introduction to mathematical concepts and theories that are needed for the theoretical understanding of major ideas in computer science, including logic, Boolean algebra, and relations and functions. Includes a fundamental treatment of: sets, counting techniques, logic, relations and functions, graphs, semigroups, monoid, groups, homomorphisms and isomorphism. Also provides illustrations and applications of these theoretical concepts to the computer field, for example, combinational network, computer logic, coding theory, introductions to finite state machines and formal languages. Prepares students for advanced work in computability theory, algorithms analysis, machine design and construction and Turing machines.

MAT 210
LINEAR ALGEBRA
4 credits (4-0)

Prerequisites: MAT 131 and 132

Covers geometric vectors, vector spaces, systems of linear equations, determinants, linear transformations, matrix algebra and the applications of matrices to the engineering, social and management sciences. Advanced topics include linear product spaces, eigenvalues and vectors, canonical forms, and computations via the computer. Topics include linear differential equations, linear programming, factor analysis, stochastic processes. Utilizes computer software to solve real-life problems and to facilitate computations involving the mathematical operations listed above.

MAT 233 **GE MAT**
ANALYTIC GEOMETRY AND CALCULUS III
4 credits (4-0)

Prerequisite: MAT 132 or equivalent

Emphasis is on the study of analytic geometry and calculus in three dimensions. Topics include solid analytic geometry, partial derivatives, multiple integrals, and topics in vector analysis such as Green's theorem, the divergence theorem, surface integrals and Stokes theorem. *Recommended for students majoring in engineering, mathematics, computer science, social sciences, and the science related fields of chemistry and physics.*

MAT 234
DIFFERENTIAL EQUATIONS
4 credits (4-0)

Prerequisite: MAT 233 or approval of mathematics department chairperson
An introduction to differential equations for students interested in mathematics and sciences - both physical and social sciences. Covers first and higher order equations, linear equations with constant and variable coefficients, series solutions, Laplace transforms, some linear algebra and matrix methods, linear systems. Topics stress not only existence of solutions and the techniques used in finding them, but also the process of mathematical modeling - the process of abstracting a real world problem into an appropriate model. Discusses relevance and history of differential equations.

MAT 285
BASIC STATISTICS FOR BUSINESS
4 credits (4-0)

Prerequisite: MAT 131 or equivalent calculus course
An in-depth study of descriptive statistics, probability, theory, sampling distributions, principles of hypothesis testing, analysis of variance and regression analysis. The material is designed to give students the knowledge and skills for gathering, organizing, and interpreting statistical data as relevant to business. This course will also provide a sound foundation for the study of more advanced topics.

MECHANICAL ENGINEERING TECHNOLOGY

MEC 111
MANUFACTURING PROCESSES AND MATERIALS I
4 credits (3-3)

A study of conventional and non-conventional machining processes, quality control techniques, and a survey of metallic and non-metallic materials used in manufacturing. Topics include manufacturing operations, machining variables, the selection, failure and life of cutting tools, machining tolerances and surface quality, inspection devices and quality control charts, and material selection. Laboratory provides hands-on experiences in the set-up and operation of machine tools.

MEC 112
MANUFACTURING PROCESSES AND MATERIALS II
3 credits (2-3)

Corequisite: MAT 109
A study of the properties of materials, primary forming and joining processes, property modification techniques and non-destructive testing methods used in manufacturing. Topics include physical and mechanical properties of materials, hot and cold forming processes, joining processes, heat treatment of metals. Laboratory provides hands-on experiences in material testing, heat treating, and joining processes.

MEC 116
NUMERICAL CONTROL, ROBOTICS, AND BONDING PROCESSES
3 credits (2-3)

Corequisite: MAT 108
Study of the modern manufacturing processes of chipless machining, numerical control, (CNC, DNC, CAM), robotics, and joining along with the primary forming processes of casting, forging, rolling, and extruding. Laboratory emphasis is on numerical control, robotics, and joining processes.

MEC 117
ELECTRICAL DRAWING
1 credit (0-3)

The graphic language as it applies to electrical drawings. Includes linework, lettering, wiring diagrams, logic diagrams, and printed circuits. *All projects are completed using (CAD), computer-aided drafting system with AUTOCAD.*

MEC 119
GRAPHIC SCIENCE
2 credits (1-3)

A study of the graphical language specifically designed for the engineering science student. Emphasizes the interpretation of engineering drawings used to communicate ideas in the major engineering disciplines. Topics include: techniques of drafting and sketching and interpretation of chemical, civil, electrical, electronic, mechanical and welding engineering drawings. Laboratory time is divided between using (CAD), computer-aided drafting and sketching techniques to complete required drawings.

MEC 123
TECHNICAL GRAPHICS/CAD I
3 credits (0-6)

A study of the graphic language of engineering and technology to include linework, lettering, graphs, geometric construction, orthographic projections, pictorial, sectional and auxiliary drawings and dimensioning techniques. An introduction to the Computer-Aided Graphics system is included. Laboratory projects provide hands-on experiences and develop graphic skills. Laboratory time is divided between technical sketching and using (CAD) computer-aided drafting system with AUTOCAD.

MEC 124
TECHNICAL GRAPHICS/CAD II
3 credits (0-6)

Prerequisite: MEC 123
A study of working drawings as they relate to the mechanical field to include detail, assembly, exploded pictorial and welding drawings. Also included are limits, precision, geometric tolerances and fits of mating parts. Laboratory projects develop and demonstrate graphic skills. Projects are all completed using (CAD) computer-aided drafting with AUTOCAD.

MEC 203
THERMODYNAMICS
3 credits (3-0)

Prerequisites: MAT 110, CSC 117
A study of the fundamental concepts of thermodynamics. Topics include: properties of substances, the ideal gas laws, thermodynamic tables, the Mollier diagram, the first law of thermodynamics for both non-flow and steady-flow applications, the second law, steam power plants, and refrigeration cycles. Computer programming projects will be required.

MEC 204
FLUID MECHANICS
4 credits (3-3)

Prerequisites: CIT 105, CSC 117, MAT 110
A study of the basic principles of conservation of energy, continuity of flow, and fluid mechanics as related to fluid systems at rest and in motion. Laboratory experiments provide hands-on experience in the set-up, operation, analysis, and design of fluid systems. Computer programming techniques are required in several analysis and design projects. Oral presentation required.

MEC 213
TECHNICAL GRAPHICS/CAD III
3 credits (0-6)

Prerequisite: MEC 123
A study of engineering graphics as applied to the solution of engineering problems of true length, true shape, intersections, and introduction to electrical, electronic, piping and welding drawing. Laboratory projects provide hands-on experience. Projects will be divided between (CAD) computer-aided drafting and conventional drafting equipment.

MEC 218
KINEMATICS
4 credits (3-3)

Prerequisites: CSC 117, MAT 110, and MEC 123
An analytical and graphical study of both machine elements and mechanisms such as linkages, gears, and cams with respect to their displacements, velocities, and accelerations. Laboratory assignments will include both analytical and graphical solution of mechanisms, gears, and motion curves on a computer aided drafting system, using AutoCad.

MEC 221
ENGINEERING MECHANICS I
3 credits (3-0)

Prerequisite: MAT 131
Basic concepts for the study of force systems and Newtonian mechanics, trusses, frames, torsion, bending, friction, centroids and moments of inertia. Engineering examples are stressed to develop understanding and application skills.

MEC 222
ENGINEERING MECHANICS II
3 credits (3-0)

Prerequisite: MEC 221
A continuation of MEC 221. Deals with the displacements, velocities, accelerations of bodies and the forces which cause the motion. Topics include kinematic and kinetic analysis of rectilinear, curvilinear, rotational and plane motion of bodies. Stresses engineering applications.

MEDICAL LABORATORY TECHNOLOGY

MED 101
INTRODUCTION TO THE MEDICAL LABORATORY I
2 credits (1-2)

Basic understanding of medical laboratory terminology, specimen collection, and manual procedures in hematology, hemostasis, body fluids, immunohematology and serology. Lectures are combined with laboratory experiences. Stresses medical ethics.

MED 102
INTRODUCTION TO THE MEDICAL LABORATORY II
3 credits (2-3)

Prerequisites: BIO 117, CHM 117, ENG 121, MAT 107 and MED 101
Continuation of MED 101. Emphasis on clinical chemistry, clinical microbiology and safety in the laboratory. Provides hands-on experience with those concepts and techniques essential to medical laboratory technology students. Laboratory experiences include manual methods with principles on techniques and accuracy being stressed.

MED 210
MEDICAL LABORATORY TECHNOLOGY I
6 credits (3-12)

Prerequisites: BIO 118, CHM 118, ENG 122, MAT 108, MED 102, and permission of the Health Technologies Division
Basic medical terminology, organization of hospital laboratories, and rules of ethical behavior. Stresses the practical side of basic laboratory work in the areas of specimen collection, hematology, urinalysis, blood banking, serology, chemical analysis, microbiology, quality control, etc. Includes on-the-job education in laboratory work. Students supervised by medical technologists and specialists. *May not be audited. An eight week, 40 hours a week. Summer clinical experience.*

MED 211
MEDICAL LABORATORY TECHNOLOGY II
8 credits (4-16)

Prerequisite: MED 210

A study of the theoretical and practical aspects of hematology, coagulation, histotechnology, urinalysis, serology, and blood banking. Clinical instruction and technique are obtained in affiliated hospitals under the supervision of medical technologists and specialists. *May not be audited. Requires 16 hours a week in a hospital laboratory.*

MED 212
MEDICAL TECHNOLOGY III
8 credits (4-16)

Prerequisite: MED 211

Continuation of MED 211. Includes microbiology and parasitology, clinical chemistry, and radioisotopes. Clinical instruction and technique are obtained in affiliated hospitals. *May not be audited. Requires 16 hours a week in a hospital laboratory.*

MANAGEMENT

MGT 200
PRINCIPLES OF SUPERVISION
3 credits (3-0)

Supervisory practices and principles with maximum opportunities for practical involvement in applying theory to real-life situations. Emphasizes first and middle-level supervisory positions. Stresses the aspects of job leadership and effective human relations. Includes procedures for dealing with interpersonal relationships among and between employees and management, quality circles, quality of work life, conflict management, cost-benefit analysis, organization development, time management and stress management. *Recommended for persons employed in or seeking entry-level employment in supervisory positions in business, industry, or public service.*

MGT 205
PRINCIPLES OF LABOR RELATIONS
3 credits (3-0)

Prerequisites: BUS 101 or MGT 220

A survey course that evaluates union growth and structure. A study of the nature of the labor market, collective bargaining, labor legislation, wages, employment, and productivity. An analysis of policies and techniques of employers, wage earners, and government in trying to find solutions to the labor problems in American society.

MGT 208
MANAGEMENT FIELD EXPERIENCE
3 credits (1-12)

Prerequisite: MGT 210

A cooperative work experience program employing students in a management position in order to gain some practical experience necessary for success in management. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their position in order to effect the attainment of specific job competencies. Students attend a weekly, one-hour seminar on campus and work a minimum of 180 hours a semester. *Individuals must be recommended by the faculty of the department and register with the department of cooperative education.*

MGT 210
CONCEPTS OF BUSINESS MANAGEMENT
3 credits (3-0)

Prerequisite: BUS 101

Theories, techniques, and insights from the behavioral sciences of the major areas of management including organization, planning, leadership, control, and administration. Concepts relating to all levels of management are studied.

MGT 214
OPERATIONS MANAGEMENT
3 credits (3-0)

Prerequisite: MGT 210

The development of an awareness of the tools a user/manager utilizes in the design modification and implementation of a manual or automated system. Students select a particular technique, apply it to a system, and develop cost justification for implementation of the technique. A combination of lecture and workshop oriented sessions are used in developing the various management techniques. The various tools and management techniques for evaluating the operations functions of a business are examined.

MGT 216
SEMINAR IN MANAGEMENT EXPERIENCES
3 credits (3-0)

Prerequisite: MGT 210

An interdisciplinary course concentrating on associating material gleaned from previous courses. Emphasis is on establishing an environment to employ previously learned material, with the opportunity to practice decision-making and control techniques based on this material. Case studies are employed and supplemented with simulation techniques such as role-playing and in basket. Special consideration is given to subordinate-supervisor interaction, with the students as participants.

MGT 220
HUMAN RESOURCES MANAGEMENT
3 credits (3-0)

An analysis of the principles of organization for effective human resources management. Selection of personnel, delegation of responsibilities, the psychology of motivating and directing people, dealing with unions and other organized groups and training and maintaining morale.

MARKETING

MKT 143
SALESMANSHIP
3 credits (3-0)

The fundamentals of selling with particular stress on preparation, approach, demonstration, overcoming objectives, and closing sales. Developed through discussions and participation in sales situations.

MKT 201
MARKETING I
3 credits (3-0)

Prerequisite: BUS 101

An overview of the field of marketing and the marketing concept. Students develop an understanding of the growing importance of the consumer, differences between industrial and consumer marketing, the impact of government and environment on marketing, and the basic marketing functions of product planning, marketing channels, physical distribution, promotion, pricing, and marketing research.

MKT 202
MARKETING II
3 credits (3-0)

Prerequisite: MKT 201

An advanced and interdisciplinary analysis of marketing planning, using the concept of strategic management, through the case history approach.

MKT 203
PRINCIPLES OF ADVERTISING
3 credits (3-0)

Prerequisite: BUS 101

The principles of advertising and the role of advertising in the field of business. The course traces advertising through its various steps from the initial need to its implementation in the marketplace.

MKT 206
MARKETING MANAGEMENT SEMINAR
3 credits (3-0)

Prerequisite or corequisite: MKT 202

Students integrate their knowledge of the major areas of marketing and management and test their theoretical concepts through marketing planning projects. Students' analyses of the class projects are directed at the managerial level.

MKT 209
MARKETING FIELD EXPERIENCE
3 credits (1-12)

Prerequisite: MKT 201

A cooperative work experience program employing students in a marketing position in order to gain practical experience necessary for success in marketing. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their positions in order to effect the attainment of specific job competencies. Students attend a weekly, one-hour seminar on campus and work a minimum of 180 hours a semester. MKT 209 Marketing Field Experience is offered as an alternative to MKT 206 Marketing Management Seminar. *Students must register with the department of cooperative education.*

MATERIALS MANAGEMENT

(See Transportation, Physical Distribution and Materials Management)

MMG 201
MATERIALS MANAGEMENT I
3 credits (3-0)

Prerequisite: DIS 101

An analysis of the characteristics of closed-loop materials management systems. Master production scheduling, materials requirement planning and capacity requirements planning will be introduced and described in detail. Principles, methods and processes in forecasting. Exponential smoothing, PERT and statistical methods will be reviewed.

MMG 202
MATERIALS MANAGEMENT II
3 credits (3-0)

Prerequisite: DIS 101

Analysis of the elements of an effective inventory management system, shop floor control and intermediate capacity control. Finite loading and infinite loading techniques will be examined in detail, together with such topics as input/output analysis dispatch lists, critical ratio and economic order quantity determination.

MUSIC

MUS 103
CHORAL PERFORMANCE I
1 credit (0-2)

A working approach to the understanding of music through singing. Proper vocal production and elementary music reading. Participation in the college chorus is required.

MUS 104
CHORAL PERFORMANCE II
1 credit (0-2)

Prerequisite: MUS 103 or permission of the instructor after audition

Continuation of MUS 103 with a more advanced choral experience in small groups. Participation in the college chorus is required.

MUS 107 **GE HUM**
INTRODUCTION TO MUSIC
3 credits (3-0)

Contemporary and classical music will be dealt with as integral parts of today's musical scene. Students listen, discuss, analyze, and evaluate music in order to increase appreciation and understanding. Attendance at a minimum of five professional college performances required.

MUS 109
CHORAL PERFORMANCE III
1 credit (0-2)

Prerequisite: MUS 104 or permission of the instructor after audition
Small ensemble singing and solo performance. Advanced sight-singing and rhythmic dictation. Participation in the college chorus is required.

MUS 110
CHORAL PERFORMANCE IV
1 credit (0-2)

Prerequisite: MUS 109 or permission of the instructor after audition
Continuation of MUS 109 with a more advanced choral experience in small ensembles and solo performance. Participation in the college chorus is required.

MUS 123 **GE HUM**
MUSIC HISTORY: TRADITIONAL
3 credits (3-0)

Understanding and appreciation of music from the historical point of view. Major periods studied include the classical, the baroque, and the romantic. Course fee and field trip are required. Required of music majors.

MUS 124 **GE HUM**
MUSIC HISTORY: CONTEMPORARY
3 credits (3-0)

Understanding and appreciation of music from the historical point of view. Special emphasis on the music of Tchaikovsky, Debussy, Stravinsky, and twentieth-century American music. Course fee and field trip are required. Required of music majors.

MUS 130
GUITAR I
2 credits (0-3)

Guitar for beginning students. Fundamentals of technique, sight-reading, and elementary literature stressed. Practice in melody, accompaniment, solos and group performance. Students must supply their own instrument.

MUS 131
KEYBOARD STUDIES I
2 credits (1-2)

Designed to give students the ability to read and play keyboard music. The course combines fundamentals of technique, keyboard harmony, sight-reading, and elementary literature. *Recommended for music majors. Open to non-music majors.*

MUS 132
KEYBOARD STUDIES II
2 credits (1-2)

Prerequisite: MUS 131
Designed to follow MUS 131 with further emphasis on keyboard harmony, sight-reading, and more advanced techniques. More difficult literature is covered and memorization stressed. *Recommended for music majors. Open to non-music majors.*

MUS 133
APPLIED MUSIC STUDIO I
2 credits (1-2)

One hour private instruction weekly in piano, organ, voice, or orchestral instruments. Credit to be determined through recital. To be arranged with the music faculty and the department chairperson. Students must have studied formally for a minimum of two years, or play on a two-year level. Fee: approximately \$15.00 per lesson.

MUS 134
APPLIED MUSIC STUDIO II
2 credits (1-2)

For course description and fee, see MUS 133.

MUS 136
GUITAR II
2 credits (0-3)

Prerequisite: MUS 130 or approval of the instructor
Advanced guitar techniques including choral accompaniment, finger style solos, and improvised solos. Use of standard music notation and tablature.

MUS 140
MUSIC FUNDAMENTALS
3 credits (3-0)

An introductory course in the study of music theory. The course concentrates on the basic elements of pitch, rhythm, scales, intervals and triads. Notational skills will be developed and aural recognition of musical elements will be introduced. A working knowledge of the piano will be developed as theoretical concepts are related to the keyboard. *No prior musical training required.*

MUS 170 **GE HUM**
MUSIC HISTORY: TRADITIONAL
(HONORS)
3 credits (3-0)

Prerequisite: Admission to Honor's Program or by permission of Honor's Coordinator
Understanding and appreciation of music from the historical point of view. Major periods studied include the classical, the baroque, and the romantic. Course fee and field trip are required.

MUS 171 **GE HUM**
MUSIC HISTORY: CONTEMPORARY
(HONORS)
3 credits (3-0)

Prerequisite: Admission to Honor's Program or by permission of Honor's Coordinator
Understanding and appreciation of music from the historical point of view. Special emphasis on the music of Tchaikovsky, Debussy, Stravinsky, and twentieth-century American music. Course fee and field trip are required. *Required of music majors.*

MUS 201
MUSIC THEORY I
3 credits (3-0)

Prerequisite: Permission of the department
A practical approach to music encompassing analysis, basic harmonic writing, and ear training. Designed for students with some previous musical background. *Required of music majors.*

MUS 202
MUSIC THEORY II
3 credits (3-0)

Continuation of MUS 201. Students build musical skills in analysis, harmonic writing, and ear training. *Required of music majors.*

MUS 207
APPLIED MUSIC STUDIO III
2 credits (1-2)

For course description, see MUS 133.

MUS 208
APPLIED MUSIC STUDIO IV
2 credits (1-2)

For course description, see MUS 133.

NURSING

The following courses are offered by the University of Medicine and Dentistry of New Jersey (UMDNJ) at Middlesex County College

NRS 100
TRANSITION CONCEPTS
2 credit equivalents (2-0)

Prerequisite: Admission to the Joint Nursing program
This course is designed for students who are seeking advanced placement. It facilitates the transition of selected candidates into the nursing program. Familiarizes students with the philosophy of the program. Emphasizes the nursing process, an approach to solving nursing problems, ethical and legal issues, communication skills and the transition to the role of registered nurse. This course is open to any student who has been admitted to Middlesex County College. Priority admission status will be given to advanced placement students.

NRS 101
BASIC PRINCIPLES OF NURSING
4 credits (4-6-6)

Prerequisite: Admission to the Joint Nursing program
Corequisites: BIO 111 and PSY 123
Enables students to identify human-environmental interactions as they relate to nursing practice. Provides students with opportunities to explore and apply concepts basic to nursing, including communication skills, ethical and legal guidelines and the nursing process through classroom lectures, seminars and a clinical practicum.

NRS 102
PRINCIPLES OF MENTAL HEALTH NURSING
4 credits (4-3-9)

Prerequisite: NRS 101
Corequisites: BIO 111 or 112 and PSY 123
Enables students to define and differentiate between mental health and alterations in mental health patterns. Provides students with opportunities to explore the implications of alterations in mental health patterns for individuals, families and communities through classroom lectures, seminars, and a clinical practicum.

NRS 103
Medication Administration
1 credit (1-3)

Prerequisite: Admission to the Joint Nursing program
This course builds upon students' mathematical skills, enabling them to calculate drug dosages and administer medications by oral, parenteral or topical routes. Provide students with opportunities to develop cognitive and psychomotor skills needed for safe medication administration through classroom lectures, seminars and learning laboratory practice.

NRS 104
NURSING AND THE CHILDBEARING FAMILY
4 credits (4-3-9)

Prerequisites: NRS 101, 103
Corequisite: BIO 111 or 112
Enables students to expand their understanding of human-environmental interactions and evolving family patterns. Provides opportunities to explore the family as a unified whole and its pattern and organization through conception and birth through classroom lectures, seminars and a clinical practicum.

**NRS 105
NURSING AND THE CHILDCARING
FAMILY**

4 credits (4-3-9)

Prerequisites: NRS 101, 103

Corequisite: BIO 111 or 112

Enables students to recognize patterns of human development from infancy through adolescence and alterations in health patterns during this period. Provides students with opportunities to explore the implications of common and complex health patterns from infancy through adolescence through classroom lectures, seminars and a clinical practicum.

**NRS 206
PRINCIPLES OF ADULT NURSING I**

4 credits (4-3-9)

Prerequisites: NRS 102, 104, 105, and BIO 112

Corequisite: BIO 211

Enables students to identify common alterations in health patterns. Nursing interventions are designed to assist patients to achieve, maintain or restore optimal health. Students actively participate in planning and providing nursing care for adults and older adults by functioning collaboratively with members of the health team.

**NRS 207
PRINCIPLES OF ADULT NURSING II**

4 credits (4-3-9)

Prerequisites: NRS 102, 104, 105, and BIO 112

Corequisite: BIO 211

A continuation of NRS 206. Students concentrate on developing more individualized and in depth nursing care plans. Students actively participate in planning and providing care for groups of adults and older adults. Provides opportunities to explore common alterations in health patterns of adults and older adults through classroom lectures, seminars and a clinical practicum.

**NRS 208
CHANGES AND ALTERATIONS IN
LIFE-LONG HEALTH PATTERNS**

4 credits (4-3-9)

Prerequisites: NRS 206, 207 and BIO 211

Enables students to recognize the importance of changes and alterations in life-long health patterns for individuals, families and communities. Emphasizes identifying the influence of such changes and alterations on human-environmental interactions. Students assist patients in developing long term strategies to achieve optimal health.

**NRS 209
SENIOR EXPERIENCE**

4 credits (2-0-18)

Prerequisites: NRS 208 and BIO 211

Corequisite: SCI 121

Enables students to operationalize the nurse role in faculty/preceptor-supervised clinical practicum experiences designed to meet individualized learning objectives in clinical settings.

OFFICE SYSTEMS TECHNOLOGY

**OST 010
KEYBOARDING FOR COMPUTERS**

1 credit equivalent (1-1)

Keyboarding computer skills are developed through hands-on applications. The course teaches the touch operation of the alphabetic, numeric, and command/function keys. Students learn to keyboard rapidly and accurately. Vocabulary and concepts used in keyboarding operations are also incorporated. *Not open to Office Systems Technology students.*

**OST 101
TYPEWRITING I**

2 credits (1-3)

The basic techniques of touch typewriting, including a thorough knowledge of the keyboard and the care and operation of the equipment. The course includes drills to develop accuracy, rhythm, and speed; typing from different kinds of copy; techniques of centering, correcting errors, preparing correspondence, manuscripts, and tables.

**OST 102
TYPEWRITING II**

2 CREDITS (1-3)

Prerequisite: OST 101

Provides activities designed to enable the typing student to extend typing power and apply the skill to the typing of business letters with special features, business forms, business reports, tables, and manuscripts. Emphasis will continue to be placed on development of speed and accuracy.

**OST 103
SHORTHAND I**

4 CREDITS (3-2)

The emphasis of Shorthand I is balanced between theory and speed building. Thus, the first half of the semester yields a heavy concentration of theory and a gradual implementation of dictation; the second half reverses to a major emphasis on dictation, with heavy concentration on speed building. The standards have been set up realistically in order to concentrate on the preparation of quality shorthand writers.

**OST 104
SHORTHAND II**

3 credits (2-2)

Prerequisites: OST 101 and 103

Reinforces the fundamental principles of shorthand to develop word-building power, phrasing skill, and typewritten transcription skill. Emphasis is on increasing shorthand speed and transcription skills for mailability techniques.

**OST 107
TRANSCRIPTION FOR BUSINESS**

3 credit (3-0)

Prerequisite: OST 101

Corequisites: OST 102, OST 122 or permission of department chairperson

Integrates machine transcription and word processing skills to produce mailable documents and take telephone messages. Machine transcription incorporates the skills of transcribing, proofreading, and editing. Students apply punctuation, spelling, vocabulary building, formatting, proofreading, and grammar to the transcription process. Dictation and composition are a basic part of the course.

**OST 110
KEYBOARDING FOR COMPUTERS**

1 credit (1-1)

Provides skills which can be transferred to the computer keyboard. The course is limited to **touch** operation of the alphabetic, numeric, and symbolic keys. Students learn to keyboard rapidly and accurately and introduced to some of the vocabulary and concepts used in keyboarding operations. *NOT OPEN TO OFFICE SYSTEMS TECHNOLOGY STUDENTS.*

**OST 122
WORD/INFORMATION PROCESSING I**

3 credits (3-0)

Prerequisite: OST 101 or permission of department chairperson

Corequisite: OST 102 or permission of department chairperson

Covers the preparation of business documents through concepts and hands-on application of word processing software. Introduction to DOS is also included.

**OST 207
ADVANCED TRANSCRIPTION FOR
BUSINESS**

3 credits (3-0)

Prerequisites: OST 101, OST 102, OST 107, OST 122 or permission of department chairperson

Corequisite: OST 222

Advanced integration of machine transcription and word processing skills. Students will continue to refine their skills in transcribing, proofreading, editing, grammar, punctuation, and formatting. Critical thinking and decision making skills will be used in the production of complex business documents including minutes of meetings, legal, medical, government, and international communications.

**OST 208
OFFICE SYSTEMS COOPERATIVE
WORK EXPERIENCE**

3 credits (1-12)

Prerequisite: OST 211 and GPA 2.0 in OST courses or permission of department chairperson

Provides students with the opportunity to gain some of the practical experience necessary for success in the automated office. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their position in order to effect the attainment of specific job competencies. Students attend a weekly, one-hour seminar on campus and work a minimum of 180 hours a semester. *Faculty of the department will be requested to recommend a student for a Cooperative Work Experience.*

**OST 210
RECORDS MANAGEMENT**

3 credits (3-0)

Prerequisites: OST 101 or keyboarding experience or permission of department chairperson

Integrates records information systems in the automated office. Focuses on systems approach to paper management and electronic records. A study of the management of information from creation to disposition. Covers practical application of manual and electronic filing systems.

**OST 211
CONTEMPORARY OFFICE PROCEDURES**

3 credits (3-0)

Prerequisites: OST 102, OST 107, OST 122 or permission of department chairperson

Focuses on secretarial administrative procedures. Students develop competence in a variety of administrative office tasks. Decision-making skills are emphasized and career opportunities are explored.

**OST 213
ADMINISTRATIVE OFFICE MANAGE-
MENT**

3 credits (3-0)

Prerequisite: OST 211 or permission of department chairperson

This course covers the scope and responsibilities of administrative office managers. Emphasis is on administrative service responsibilities of the office and the management of administrative systems.

**OST 222
WORD/INFORMATION PROCESSING II**

3 credits (2-2)

Prerequisite: OST 122

Further develops understanding of the integration of office functions through the use of technology. Office-simulation projects using advanced information processing applications allow students to develop a mastery of software on PC equipment. Human resource skills will be developed through case studies, field trips, and related activities.

**OST 223
INTEGRATED SOFTWARE APPLICATIONS
3 credits (3-0)**

Prerequisite: OST 222 or permission of department chairperson
Advanced information processing. Develops mastery of word processing, spreadsheet, data base, graphic, and desktop publishing applications through hands-on experience using a networked system. Projects are used for advanced business applications.

**PHOTOGRAPHY (Professional
Commercial Photography)**

*(See Marketing Art and Design for Introductory
Photography Course Descriptions)*

**PCP 213
PORTFOLIO PROJECT
(Professional Commercial Photography)
2 credits (1-3)**

Prerequisites: All foundation first-year courses or permission of department chairperson; MKT 143 or 201; PCP 216, 218

Corequisites: PCP 217 or PCP 220
A student-selected comprehensive project will be critiqued by professional advisors. Students are guided in the methods and techniques for best presenting their work. Considerable research work is anticipated.

**PCP 216
PRODUCT ILLUSTRATION AND
PHOTOMECHANICAL REPRODUCTION
4 credits (3-3)**

Prerequisites: MAD 105 and 108
The link between commercial studio photography and the reproduction of photographs in the printed media. Extensive hands-on experience in the use of the view camera and studio lighting equipment combined with practice in the operation of the process camera for photomechanical reproduction. Practical applications such as making of large format negatives and color transparencies for product illustration, as well as the production of line and half-tone negatives for offset lithography.

**PCP 217
PORTRAIT PHOTOGRAPHY
2 credits (1-2)**

Prerequisites: ART 103; MAD 108, 112, and 117
Studio and home portraiture from the point of view of professional portrait photography. Photography of groups, children, brides, men, women, etc. Printing, finishing, and portrait retouching.

**PCP 218
COLOR PRINTING TECHNIQUES
2 credits (1-2)**

Prerequisites: MAD 108 and 112
Photographic color printing materials and techniques. Subtractive color printing, visual analysis of color balance, and the use of the color analyzer. Making internegatives, transparency duplication, and reversal printing. Color print finishing techniques.

**PCP 220
MULTI-MEDIA PRODUCTION
4 credits (3-3)**

Prerequisites: MAD 105, 108, and 112
Production of audiovisual communication media for use in business and industry. Photographic techniques and procedures utilized in the production of software including simple communication aids such as transparencies and slides as well as complex programmed multi-image presentations and motion picture animation. Projects will be carried from planning stage through actual production to final presentation.

**PCP 222
MARKETING ART AND DESIGN FIELD
EXPERIENCE
3 credits (1-12)**

Prerequisite: Senior status in advertising graphics design option or professional commercial photography option

A cooperative work experience program whereby students are provided with a job that will enhance their competency by getting practical hands-on experience in state-of-the-art technology utilized by commercial designers and photographers. Students are assigned to work on a one-to-one basis with a professional designer or photographer using the latest techniques and equipment. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their position in order to effect the attainment of specific job competencies. Students attend a weekly, one-hour seminar on campus and work a minimum of 180 hours during the semester. *Open to senior students recommended by the faculty of the department. Marketing Art and Design Field Experience is not a graduation requirement.*

PHYSICAL EDUCATION

*(For related courses, see Health, Recreation and
Dance)*

**PED 102
ARCHERY AND BOWLING
1 credit (0-2)**

Students perform the basic skills of the activities and apply the rules and playing procedures.

**PED 108
MODERN DANCE**

**FOR RELATED COURSES SEE DANCE (DAN)
1 credit (0-2)**

Acquaints students with the basic techniques of dancing in the 20th Century. The use of space, time and energy as the raw materials in modern dance. Students discover movement and create patterns for themselves.

**PED 109
SOCIAL, FOLK, AND SQUARE DANCE
FOR RELATED COURSES SEE DANCE (DAN)
1 credit (0-2)**

Students perform a broad repertoire of steps and rhythms common to folk, square, and social dance. Cultural heritage traits relating to these specific countries. Students dance for recreation and enjoyment.

**PED 112
TENNIS AND VOLLEYBALL
1 credit (0-2)**

Students perform the basic skills of the activities and apply the rules and playing procedures.

**PED 117
CANOEING
1 credit (0-2)**

Canoeing safety and techniques of operation. The acquisition of basic canoeing skills. A required weekend trip provides opportunity for students to apply the knowledge they have acquired. Students are responsible for renting equipment. Six on-campus meetings are also required.

**PED 120
GOLF
1 credit (0-2)**

Basic instruction in the skills, rules, playing procedures. Students demonstrate appropriate shot-making abilities.

**PED 122
VOLLEYBALL
1 credit**

The student will receive instruction in the skills, playing procedures and strategies of volleyball. Team play will be developed and stressed.

**PED 124
SKIING
1 credit (0-2)**

Basic techniques, equipment selection and care, safety procedures and etiquette essential in skiing. (The half-semester course will require a weekend trip to an area ski resort at students' expense.)

**PED 127
TENNIS
1 credit (0-2)**

Students receive instruction in the beginning skills playing procedures, etiquette and strategies of tennis.

**PED 130
INTERMEDIATE TENNIS
1 credit (0-2)**

Intensive drill work to develop higher level tennis strokes and more proficient playing procedures. Students demonstrate proficiency in the forehand, backhand and serve as a prerequisite for this course.

**PED 132
BACKPACKING
1 credit (0-2)**

The types of equipment, skills and procedures necessary to plan and undertake a safe backpacking experience. Trip planning and preparation, meeting basic needs and unexpected occurrences, and low impact use of the environment. Six on-campus meetings and a weekend trip are required. Students are responsible for providing their own equipment, food, and transportation for the weekend.

**PED 139
EXERCISE, FITNESS AND CONDITIONING
1 credit (0-2)**

Develops an awareness and understanding of the necessity for planned physical activity as it pertains to the enhancement of one's physical, mental, and emotional well being. Students are required to participate in exercise programs defined by the instructor. Acquaints the student with proper nutrition. Briefly examines cardiovascular disease and its causes.

**PED 140
RACQUETBALL
1 credit (0-2)**

The rules, basic strokes, shots and strategies of racquetball. Experience is provided in singles and doubles play.

**PED 141
AEROBIC DANCE
1 credit (0-2)**

Principles of dance, calisthenics and aerobics with specific exercises geared to strengthen the cardiovascular system. Aerobic dance to improve physical fitness as well as motor performance. A study of rhythmic dance-like movements executed to music.

**PED 142
AQUA AEROBICS
1 credit (0-2)**

A fitness course in an aquatic environment. Included are the components of fitness, principles of nutrition, basic principles of kinesiology, and principles of practical, safe workouts. Swimming skill is not a prerequisite.

**PED 143
BEGINNING SWIMMING
1 credit (0-2)**

For the non-swimmer and the beginner swimmer. Basic water skills including adjustment to the water, overcoming fear, treading water, beginner stroke, crawl stroke, floating and swimming on the back, artificial respiration and basic rescue techniques. American Red Cross guidelines.

**PED 144
INTERMEDIATE SWIMMING
1 credit (0-2)**

A second level course for students who successfully complete the beginning swimming course, PED 143, or demonstrate the ability to swim the crawl with head in the water using rhythmic breathing for at least 50 meters. A variety of strokes and skills including elementary backstroke, basic diving, sidestroke, breast stroke, underwater swimming, various kicks, and personal safety skills. American National Red Cross guidelines.

**PED 145
ARC LIFEGUARD TRAINING
1 credit (0-2)**

Provide students with the minimum skills training to qualify as nonsurf lifeguards. Upon successful completion of the course requirements, students receive the American Red Cross Lifeguarding Certificate. N.M. Students may also take the course for college credit without becoming a certified lifeguard. Students must demonstrate strong swimming skills at the first class meeting.

**PED 210
PED
SCIENTIFIC PRINCIPLES OF
CONDITIONING PROGRAMS
3 credits (3-0)**

The physiological basis of fitness. Students explore the areas of strength, muscular and cardiovascular endurance, flexibility and nutrition. Students demonstrate, design and implement correct programs in these areas.

**PED 212
AQUATICS MANAGEMENT
3 credits (3-0)**

Develops professional aquatic workers. Includes an examination of the principles involved in establishing a multifaceted aquatic program. Includes the inter-relationship between resources and management, facilities and equipment, facility operation, safety and legal considerations, lifeguarding, budgeting, staffing and managing, program development and promotion. Explores theoretical and practical aspects through classroom discussion and field trips.

**PED 239
LAW ENFORCEMENT FITNESS
3 credits (3-0)**

Required for and restricted to recruits enrolled at the Middlesex County Police Academy. This course will meet the learning objectives of the N.J. Police Training Commission. It will develop an understanding of the necessity for planned physical activity and requires vigorous participation on the part of the student. Minimum performance objectives must be met to complete the course.

**PED 245
ARC LIFEGUARD TRAINING,
CARDIOPULMONARY RESUSCITATION
AND STANDARD FIRST AID
3 credits (3-0)**

Prerequisites: Students must be 15 years of age on or before the beginning of the course. Swim 500 meters continuously using each of the following strokes for at least 50 meters: crawl, breaststroke, elementary backstroke and sidestroke (intermediate level performance); surface dive to a minimum depth of 9 feet and bring a 10 pound diving brick to the surface; surface dive to a minimum depth of 5 feet and swim underwater a minimum of 15 meters; tread water for one minute. Provides the student with the minimum skills training to qualify as a nonsurf lifeguard. Upon successful completion of all course requirements, students will receive the American Red Cross Lifeguarding Certificate and Standard First Aid Certificate (which includes CPR certification). Students may take the course for college credit without becoming a certified lifeguard.

**PED 270
PHYSICAL EDUCATION FIELD EXPERIENCE
3 credits (1-13)**

A cooperative work experience program employing students in a physical education related position in order to gain practical experience necessary for success in that field. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their position in order to effect the attainment of specific job competencies. Students attend a weekly, one-hour seminar on campus and work for a minimum of 13 hours a week. Students are required to work a total of 180 hours during the semester. *Students must be recommended by the faculty of the department.*

PHILOSOPHY

**PHI 121
PHILOSOPHY
3 credits (3-0)**

Background, fundamental problems, and developing types of philosophy as expressed in selected writings of major classical and modern philosophers of the Western tradition.

**PHI 122
LOGIC
3 credits (3-0)**

Elementary presentation of the basic tools of logic. The nature and purpose of definition, concepts of truth, and the pitfalls of language. The modern methods of symbolic logic are employed throughout.

**PHI 123
ETHICS
3 credits (3-0)**

A survey of the philosophical foundations of Western moral/ethical theory, including natural law, social contract theory, Kantian duty, and utilitarianism. These approaches are employed to consider solutions to such moral dilemmas as abortion, nuclear weaponry, poverty and euthanasia.

PHYSICS

**PHY 010
BASIC PHYSICS
4 credit equivalents (2-4)**

Corequisite: MAT 014 or equivalent
A one-semester non-credit introductory physics course designed to give students sufficient background to enter into non-calculus physics courses.

**PHY 101
PRINCIPLES OF PHYSICS I
4 credits (3-2)**

Prerequisite: One year high school algebra or MAT 013
Includes an introduction to Newtonian mechanics with application of the conservation laws to physical systems. Electromagnetism and geometrical optics are introduced at an elementary level. Topics in wave propagation, thermodynamics, atomic and nuclear physics.

**PHY 108
RADIOGRAPHIC PHYSICS I
3 credits (2-2)**

Prerequisite: Algebra I
Technical skills needed for physics course and for other courses in the Radiography Education Program are taught including calculating skills, using formulas, and graphing. Basic physics consists of mechanics, energy, electrostatics, simple D. C. circuits, and atomic theory. Appropriate laboratory experience provided and include computer skills. *The first semester of a two semester course.*

**PHY 109
RADIOGRAPHIC PHYSICS II
4 credits (2-4)**

Prerequisite: PHY 108 or equivalent
A continuation of PHY 108. Topics include: D.C. and A.C. circuit theory, electromagnetism, quantum theory, and x-rays. A detailed study of x-rays (properties, production, x-ray tubes, x-ray interactions, x-ray machines circuitry, interactions of x-rays, detection, and dosimetry). Appropriate laboratory experience provided and include computer skills.

**PHY 115
COLLEGE PHYSICS I
4 credits (2-4)**

Prerequisite: MAT 014 or equivalent
Corequisite: MAT 109
Emphasizes problem-solving methods for a technological environment. Students will use computers in the laboratory for developing programming skills and for the analysis of experimental data. Topics include kinematics and dynamics, conservation of energy and momentum, waves, temperature and heat, and thermodynamics. *The first semester of a one-year trigonometry-based physics sequence course.*

**PHY 116
COLLEGE PHYSICS II
4 credits (2-4)**

Prerequisite: PHY 115
Emphasizes problem-solving methods for a technological environment. Students will use computers in the laboratory for developing programming skills and for the analysis of experimental data. Topics include electrostatics, direct current circuits, electromagnetism, alternating currents, electromagnetic waves, geometrical and physical optics, quantum theory, atomic physics, and nuclear physics. *The second semester of one-year trigonometry-based physics sequence.*

**PHY 121
GENERAL PHYSICS I
4 credits (2-4)**

Prerequisite: MAT 129
Emphasizes theoretical models and basic physical principals. The course is precalculus based and uses some basic calculus in the development and applications of physical principles in a scientific environment. Students will use computers in the laboratory for developing programming skills for the analysis of experimental data. Topics include kinematics, dynamics, conservation of energy and momentum, waves, temperature and heat, and thermodynamics. *The first semester of a two-semester college-parallel sequence for liberal arts science and pre-professional students.*

**PSR 207
COMMUNITY RESOURCE MANAGEMENT
AND THE INDIVIDUAL WITH SERIOUS
MENTAL ILLNESS
3 credits (3-0)**

Prerequisite: PSR 101

This course introduces students to the principles and practices of systems utilization for the improved functioning of the psychiatrically disabled. Needs evaluation and goal formulation will be the basis of case coordination and resource linking within a systems framework. Classroom lectures and seminars provide students with opportunities to explore the relationship of services to the individual's psychological, vocational, social, recreational, residential, and educational needs.

**PSR 208
CLINICAL PRACTICE AND SEMINAR III
5 credits (3-0-12)**

Prerequisite: PSR 206

This course builds upon students' previous knowledge obtained in prerequisite courses and enables students to implement effectively the psycho-social rehabilitative role in a faculty supervised clinical practicum (12 hours weekly, for a minimum of 168 hours). These experiences are designed to expand the student's skills and clinical judgement as part of a multi-disciplinary team providing service to severely mentally ill clients.

**PSR 209
EMERGING TOPICS IN PSYCHO-SOCIAL
REHABILITATION AND TREATMENT
3 credits (3-0)**

Prerequisite: PSR 101

This course acquaints the student with emerging developments in the field of psycho-social rehabilitation and treatments, focusing on current issues and trends. The treatment needs of special subgroups will be addressed. Topics to be included are: programming for the elderly mentally ill, young adult chronic individuals, cultural and ethnic minorities. In addition, programmatic innovations will also be discussed, including consumer self-help groups, and consumer-run services. The purpose of the course is to help the student conceptualize psycho-social rehabilitation as a diverse and evolving field that adapts to demographic and cultural change.

PSYCHOLOGY

**PSY 123
INTRODUCTORY PSYCHOLOGY
3 CREDITS (3-0)** GE SS

Provides a psychological basis for the understanding of human behavior. A survey of fundamentals that are necessary for subsequent psychology courses. Topics include but are not limited to: learning, motivation, cognition, personality, abnormal behavior, development and social psychology.

**PSY 170
INTRODUCTORY PSYCHOLOGY (HONORS)
3 credits (3-0)** GE SS

Prerequisite: Admission to the Honors Program or approval of the Honors Program Coordinator
Provide sophisticated insights concerning a psychological basis for the understanding of human behavior. An in-depth survey of fundamental concepts that are necessary for subsequent psychology courses. Topics include, but are not limited to: learning, motivation, cognition, personality, abnormal behavior, development, and social psychology. Honors students will engage in reporting about original psychological research and/or reporting on an empirical research project.

**PSY 217
PSYCHOLOGY OF WOMEN
3 credits (3-0)** GE SS

The issues raised by the new female self-awareness. Topics include personality and biological differences between the sexes; the role of women in the family, society, and sexual relationships; and the influence of the women's liberation movement.

**PSY 219
THEORIES OF PERSONALITY
3 credits (3-0)**

An introduction to and evaluation of modern personality theories. A study of representative theories from different schools, including psychoanalysis.

**PSY 222
SOCIAL PSYCHOLOGY
3 credits (3-0)** GE SS

Prerequisites: SOC 121 or PSY 123

The behavior and development of the individual in society, the functions of social attitudes, and the emergence of social awareness. Also, the character of group conflict and group solidarity.

**PSY 223
CHILD PSYCHOLOGY
3 credits** GE SS

Prerequisite: PSY 123

Human behavior from prenatal development to maturity. The study of physical, intellectual, and emotional behavior. Behavior characteristics of different age levels, individual differences, and methods of adjustment.

**PSY 227
PSYCHOLOGY OF THE HANDICAPPED
3 credits (3-0)** GE SS

Examines the psychological development and problems of children with handicaps and learning disabilities.

**PSY 234
PSYCHOLOGY OF DEATH AND DYING
3 credits (3-0)** GE SS

The attitudes and feelings toward death and loss. An examination of the facts about death and dying in our society.

**PSY 235
ABNORMAL PSYCHOLOGY
3 credits (3-0)** GE SS

Prerequisite: PSY 123 or permission of department chairperson

A multidisciplinary approach to the problems of mental health and illness stressing the role of physical, psychological, and sociological forces as causative factors in personality disturbances.

**PSY 240
PERSPECTIVES ON SEXUAL IDENTITY
3 credits (3-0)** GE SS

Prerequisite: PSY 123 or SOC 121 or SOC 123 or permission of department chairperson
Examines the processes involved in the formation of sexual identity from psychological and anthropological perspectives, including contemporary, historical and cross-cultural viewpoints. Covers biological, cultural and psychological determinants of sex role behaviors and gender identification. Team taught by psychology and anthropology/sociology faculty. May be taken to satisfy 3 credits in either psychology or sociology, but not both.

**PSY 244
BUSINESS AND INDUSTRIAL PSYCHOLOGY
3 credits (3-0)** GE SS

The methods and techniques of psychology are applied to such problems as personnel selection, performance measurement, employee development, job satisfaction, and decision making. Organization and leadership are explored within the framework of psychological and social principles.

**PSY 255
ADOLESCENT PSYCHOLOGY
3 credits (3-0)** GE SS

An in-depth exploration of the transition period from childhood to adulthood. Biological, social and psychological processes involved in this transition are examined.

**PSY 260
PSYCHOLOGY FIELD EXPERIENCE
3 credits (1-12)**

Prerequisite: PSY 123 with a grade of "C" or better
A cooperative work experience program whereby the student is employed in a departmentally approved position in order to gain the practical competency necessary for success in Applied Psychology. Supervision is provided by the College through on-the-job visits and individual progress review sessions. The student must be approved by the department and is required to establish learning objectives related to his or her position. The regular day student attends a weekly, one hour seminar on campus and works approximately 13 hours a week, for a total of 180 field experience hours during the semester. *DCE students' hours are adjusted to fit the different semester lengths, yet reflect the same total hours.*

PURCHASING

**PUR 201
PURCHASING PRINCIPLES
3 credits (3-0)**

Prerequisite: BUS 101

The purchasing functions in an organization and their role in business. Analytical descriptions of the latest development and techniques directed to price and value analysis, planning and forecasting, inventory control requirements, and its effect on the project structure.

RADIOGRAPHY EDUCATION

(These courses may not be audited)

**RAD 127
RADIATION BIOLOGY
1 credit (1-0)**

Prerequisites: RAD 220 and PHY 109

Corequisites: RAD 206, 215, 230
An introduction to the biological effects of radiation exposure.

**RAD 201
INTRODUCTION TO RADIOGRAPHY
4 credits (3-3)**

Corequisites: RAD 203, 207 and BIO 111
Provides an overview of clinical radiography, introduces the students to the basic radiographic principles of; radiation protection, medical ethics, medical terminology, and provides the student with a familiarization with the operation of the Radiology Department. The course also offers an analysis of the health care delivery system, and the quality and delivery of patient care, vital signs, infection control and asepsis, as well as an introduction to the structure and concepts of medical language with an emphasis on etymological word analysis.

Completed student health forms, including the required immunizations and tests, must be on file with the Office of the Health Services Coordinator prior to clinical attendance.

**RAD 203
RADIOGRAPHIC POSITIONING AND ANATOMY I
3 credits (3-0)**

Corequisites: RAD 201, 207 and BIO 111

Specific bony and soft tissue anatomy, as visualized radiographically of the upper extremity, shoulder girdle, thorax, lungs, and abdominal cavity. Radiography of these anatomical areas is performed in the energized radiographic laboratory using the phantom patient. *Practical competency must be demonstrated in the radiographic laboratory prior to advancing to the next level.*

RAD 204
RADIOGRAPHIC POSITIONING AND ANATOMY II
3 credits (3-0)

Prerequisites: RAD 201, 203, 207 and BIO 111
Corequisites: RAD 208, 210 and BIO 112, PHY 108
A study of specific anatomy of the lower extremities, pelvis and vertebral column with the appropriate positioning techniques. Radiographic demonstrations performed using the energized radiographic laboratory and the phantom patient. *Practical competency must be demonstrated in the radiographic laboratory prior to advancing to the next level.*

RAD 205
RADIOGRAPHIC POSITIONING AND ANATOMY III
4 credits (3-3)

Prerequisites: RAD 204, 208, 210 and BIO 112, PHY 108
A study of the specific anatomy of the digestive, biliary and urinary systems with the appropriate positioning techniques. Radiographic demonstration of these systems performed using the energized radiographic laboratory and the phantom patient. *Practical competency must be demonstrated in the radiographic laboratory prior to advancing to the next level.*

RAD 206
RADIOGRAPHIC POSITIONING AND ANATOMY IV
3 credits (3-0)

Prerequisite: RAD 220
Corequisites: RAD 127, 215, 230 and PHY 109
A study of the specific bony and soft tissue anatomy of the skull and facial bones as visualized radiographically. Radiographic demonstration of these areas is required using the energized radiographic laboratory and the phantom patient. *Practical competency must be demonstrated in the radiographic laboratory prior to advancing to the next level.*

RAD 207
EXPOSURE I/RADIATION PROTECTION
4 credits (3-3)

Corequisites: RAD 201, 203 and BIO 111
An in depth study of the basic concepts and practices in radiation protection for the radiation worker. Principles of radiographic exposure will be considered, among these the components of the x-ray tube, composition and function of radiographic film, latent image formation, the radiographic function and interrelationship of the four prime factors as well as an introduction to the processing room, accessory equipment and processing procedures.

RAD 208
EXPOSURE II
2 credits (2-0)

Prerequisites: RAD 201, 203, 207 and BIO 111
Corequisites: RAD 204, 210 and BIO 112, PHY 108
Fluoroscopic, automatic exposure, and sensitometric techniques are analyzed. Theoretical aspects of radiographic technique are related to clinical application. Discussions relating to the composition and function of beam limiting devices, filters, grids and intensifying screens is included. Provides an in depth study of the concepts surrounding the interaction of radiation and matter.

RAD 210
CLINICAL PRACTICUM I
2 credits (0-16)

Prerequisites: RAD 201, 203, 207 and BIO 111
Corequisites: RAD 204, 208, BIO 112, PHY 108
An introduction to the functioning of a radiology department. Under direct supervision, students assist with, and perform radiographic examinations of the appendicular skeleton, bony thorax, lungs and abdomen on patients at an assigned clinical agency. Stresses competency in performance and in the development of a professional work ethic. Weekly discussions, assignments and reviews are given. *Practical competencies must be demonstrated in specific radiographic examinations.*

RAD 215
ADVANCED RADIOGRAPHY
2 credits (2-0)

Prerequisite: RAD 220
Corequisites: RAD 127, 206, 230 and PHY 109
A study of radiographic anatomy and techniques as they apply to pediatric patients. An introduction to special radiographic equipment and procedures is provided including computerized tomography and magnetic resonance imaging. A discussion of interventional radiographic procedures is also included.

RAD 219
INTRODUCTION TO PATHOLOGY
2 credits (2-0)

Prerequisites: RAD 127, 206, 215, 230 and PHY 109
Corequisites: RAD 250, 256
An introduction to disorders of the adult and pediatric patient with emphasis on recognizing abnormal radiographic patterns. This course provides the student with an introduction to the concepts of disease and pathology as it relates to various radiographic procedures.

RAD 220
CLINICAL PRACTICUM II
2 credits (0-16)

Prerequisite: RAD 205
Provides experiences toward mastery of competency in examinations of the digestive, biliary and urinary systems at an assigned clinical agency. Continued development of the student's professional work ethic and practical competency will be demonstrated on examinations of the appendicular skeleton, bony thorax, lungs and abdomen. Weekly discussions, assignments and reviews are given.

RAD 230
CLINICAL PRACTICUM III
2 credits (0-16)

Prerequisite: RAD 220
Corequisites: RAD 127, 206, 215 and PHY 109
Provides experiences toward mastery of competencies in the skull and sinuses. Continued practical competency will be demonstrated in examinations of the appendicular skeleton, thorax, lungs, abdomen digestive system, biliary system and urinary system. Continued development of the student's professional work ethic is required. Weekly discussions, assignments and reviews are given.

RAD250
CLINICAL PRACTICUM IV
3 credits (0-16)

Prerequisites: RAD 127, 206, 215, 230 and PHY 109
Corequisites: RAD 219, 256
Emphasizes competency relating to examinations of the skull and sinuses and in the area of special radiographic procedures. Continued practical competencies will be demonstrated in the areas of the appendicular skeleton, thorax, lungs, abdomen, digestive system, biliary system and urinary system. The student must demonstrate competency in twenty five designated examinations. Continued development of the student's professional work ethic is required.

RAD 256
RADIOGRAPHIC SEMINAR I
2 credits (2-0)

Prerequisites: RAD 127, 206, 215, 230 and PHY 109
Corequisites: RAD 219, 250
Review of the five major areas of radiography required for the National Board examination, utilizing testing, computerized review and problem solving. Simulated board examinations are administered throughout the course.

RAD 257
RADIOGRAPHIC SEMINAR II
2 credits (2-0)

Prerequisite: RAD 260
Continued review of the five major areas of radiography required for the National Board examination, utilizing testing, computerized review and problem solving. Simulated board examinations are administered throughout the course. A grade of 80% on the final simulated Board Exam is required to pass the course.

RAD 260
CLINICAL PRACTICUM V
3 credits (0-16)

Prerequisites: RAD 219, 250, 256
A completion of the competency requirements as specified by the Radiologic Technology Board of X-ray Examiners and the Joint Review Committee on Education in Radiologic Technology. Emphasizes the assessment of performance competency and the student's mastery of the clinical objectives. Seven terminal competencies are to be completed prior to completion of the course.

READING

RDG 009
READING SKILLS FOR COLLEGE I
4 credit equivalent (3-1)

Provides intensive instruction to help students develop basic reading comprehension, vocabulary, communication and study skills. *In order to receive a passing grade of "C" or better and move on to RDG 011, students must make an appropriate score on the re-test version of NJCBSPT Reading Comprehension section. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.*

RDG 011
READING SKILLS FOR COLLEGE II
credit equivalent (3-0)

Prerequisite: Appropriate score on the NJCBSPT reading comprehension section or a grade of "C" or better in RDG 009
Designed to help students improve their comprehension and speed, to develop a college-level vocabulary, and to learn academic study skills. Mastery of the behavioral objectives will enable students to comprehend collegiate texts. *Students must pass a re-test version of the NJCBSPT Reading Comprehension section to earn a "C" or better. "C" is the minimum acceptable grade for movement from one remedial/developmental level to another and for completion of remediation/developmental requirements to include all credit equivalent courses.*

REAL ESTATE

REA 240
REAL ESTATE PRINCIPLES AND PRACTICES FOR SALESPeOPLE
5 credits (5-0)

Introduction to physical, economic, and social aspects of real estate principles. Conveyancing, mortgaging, valuation, marketing techniques, and practical application are discussed. Approved by New Jersey Real Estate Commission as prerequisite for Real Estate sales license examination.

REA 243
REAL ESTATE APPRAISAL
3 credits (3-0)

Basic principles of determining property value, the appraisal process, approaches to value, depreciation techniques, and the preparation of appraisal reports.

RECREATION

(For related courses see, Physical Education)

REC 203 **GE PED**
OUTDOOR RECREATION
3 credits (2-2)

The fundamental values of nature and ways in which these relate to all people of the world. The application of theories, techniques and leadership skills to aid students in their study of the importance of comprehensive outdoor recreation programs and how they contribute to a better quality of life. Written projects and papers requiring the use of the library are necessary to complete the course.

FASHION MERCHANDISING AND RETAIL MANAGEMENT

RET 201
FASHION MERCHANDISE INFORMATION
4 credits (4-0)

Corequisite: BUS 101

The fashion and technical characteristics of various textiles and nontextiles and how students can use this information in developing a good sales presentation.

RET 202
RETAIL BUYING AND MERCHANDISING
3 credits (3-0)

The latest techniques employed in the merchandising division of a store. The functions of the buyer and buyer's problems are analyzed and discussed. The analysis and determination of consumer demand, when and how much to buy, sources of supply, formulation and merchandise plans for profit, and planning and control of stock.

RET 204
RETAIL MANAGEMENT
3 credits (3-0)

Prerequisites: BUS 101, RET 201, 202, 205, and 207, MKT 143 and 201

Corequisite: RET 206

The management principles and practices used in stores with emphasis on organization, operations, and customer relations.

RET 205
STORE FIELD EXPERIENCE I
3 credits (1-12)

Prerequisite: Senior status in retail management and merchandising or permission of department

A cooperative work experience program employing students in retail stores to gain some of the practical experience necessary for success in retailing. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their positions in order to effect the attainment of specific job competencies. Students attend a weekly, one-hour seminar on campus and work a minimum of 180 hours a semester. *Students must register with the department of cooperative education.*

RET 206
STORE FIELD EXPERIENCE II
3 credits (1-12)

Prerequisite: Senior status in retail management and merchandising or permission of department

A cooperative work experience program employing students in retail positions to gain practical experience necessary for success in retailing. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related in their positions in order to effect the attainment of specific job competencies. Students attend a weekly, one-hour seminar on campus and work a minimum of 180 hours a semester. *Students must register with the department of cooperative education.*

RET 207
RETAIL ADVERTISING, SALES PROMOTION, AND DISPLAY
3 credits (2-2)

Techniques of advertising, sales promotion, and display to promote sales. Topics include: policies and procedures used in planning and preparing advertisements, evaluation and selection of media, planning and coordinating advertising, sales promotion, and display.

SCIENCE

SCI 108 **GE SCI**
NATURAL HISTORY OF NEW JERSEY
3 credits (2-2)

Emphasis is on exposing students to the diversity of natural habitats found within New Jersey. Bogs, freshwater marshes, salt marshes, swamps, hardwood forests, the Pine Barrens, and seashore environments are explored on field trips. Students observe and study species of animals and plants which are characteristic of each ecosystem type and develop an awareness of the impact of human activities on the natural environment.

SCI 121
PHYSICAL SCIENCE
4 credits (2-2-2)

Prerequisite: One year of high school chemistry or CHM 010

An introduction to concepts of chemistry and physics. The physics topics include: mechanics, energy, heat and temperature, properties of liquids and gases, and basic electricity. The chemistry topics include: atoms and elements, radioactivity, ionic and covalent bonding, acids, bases, and salts, solutions, colloids, and emulsions, important organic chemicals and important biochemicals such as carbohydrates, proteins, and lipids. This fulfills the science requirement for the A.S. Degree in Nursing.

SCI 155 **GE SCI**
INTRODUCTION TO GEOLOGY AND OCEANOGRAPHY
4 credits (3-2)

Prerequisite: MAT 014, Algebra II or equivalent
A one-semester course dealing predominately with Geology and with the physical aspects of the ocean. Topics include a discussion and identification of rocks and minerals, volcanism, the geologic time scale, earthquakes, and their origin. Introduces important topics in Physical Oceanography and the Geology of New Jersey and environs. Students are required to go on an all day field trip. Provides appropriate laboratory exercises.

SCI 156 **GE SCI**
INTRODUCTION TO ASTRONOMY
4 credits (3-2)

Prerequisites: One year of high school laboratory science, MAT 014, Algebra II or equivalent

An introduction to descriptive space science covering the historical development of astronomy and planetology. Basic physical laws are introduced to help explain the tools used in the investigation of the solar system and the galaxy. Topics include stellar and solar systems, evolution and cosmology. The possibility of extraterrestrial life and communication with it is included as a necessary part of the subject. Laboratory experience included.

SCI 200 **GE SCI**
CONCEPTS OF CONSUMER SCIENCE
3 credits (2-2)

A general one-semester introduction to basic scientific concepts. Consumer interests are stressed and consumer concerns are discussed. Products are analyzed in the laboratory. Topics include unit pricing, heating and insulation of homes, radiation in the homes, food value of various foods, F.D.A. regulation regarding chemical additives, etc.

SCI 204 **GE SCI**
CONCEPTS OF PHYSICAL SCIENCE
3 credits (2-2)

Direct scientific experiences through an investigation of natural laws. A one-semester laboratory science course for non-science majors.

SCI 208
LABORATORY INSTRUMENTATION
3 credits (2-3)

Prerequisites: CHM 118 and MAT 108 or equivalent
An introduction to the theory and practical operation of common analytical instruments and techniques. Emphasis is on spectrophotometry (visible, UV, and IR) and chromatography (thin layer and VPC).

SOCIOLOGY

SOC 121 **GE SS**
INTRODUCTION TO SOCIOLOGY I
3 credits (3-0)

Examines concepts of role, status, community, and stratification with special emphasis on social and racial problems in contemporary America.

SOC 122 **GE SS**
INTRODUCTION TO SOCIOLOGY II
3 credits (3-0)

Prerequisite: SOC 121

Continues the basic concepts of Sociology 121 by focusing on the basic social institutions in America (e.g. religion, the economy, family politics, law, science, education), collective behavior, social movements, and social change.

SOC 123 **GE SS**
INTRODUCTION TO ANTHROPOLOGY
3 credits (3-0)

Combines physical and cultural anthropology by exploring the relationship between physical evolution and the corresponding development of human cultural life. A study of cultures and customs around the world. These customs include: magic and religion, marriage and sex roles, political structure and subsistence patterns such as hunting and farming.

SOC 131 **GE SS**
CONTEMPORARY SOCIAL PROBLEMS
3 credits (3-0)

Surveys some contemporary social problems: physical disability, mental-emotional disability, drug abuse, crime and delinquency, poverty, discrimination, and unemployment.

SOC 140 GE SS
INTRODUCTION TO CRIMINOLOGY
3 credits (3-0)
 The nature and sources of criminal law, incidences and trends of criminology, relationship of culture and social systems to criminology, biological, psychological and sociological theories of criminology.

SOC 141
INTRODUCTION TO SOCIAL WORK AND SOCIAL WELFARE POLICY
3 credits (3-0)
 An introduction to the evolution of the policies and practices of social welfare and social work. Historical developments, current provisions, social, attitudinal, economic and political trends in the United States affecting institutionalized responses to perceived health and welfare needs are analyzed.

SOC 173 GE SS
INTRODUCTION TO ANTHROPOLOGY (HONORS)
3 credits (3-0)
Prerequisite: Students must have a GPA greater than 3.0 and the permission of the chairperson
 Explores the relationship between physical evolution and the development of human culture. Examines theories of cultural anthropology through in-depth cultural analysis of major institutions such as family, economy, government, religion and human ecology with an emphasis on preliterate peoples. Focuses on way in which these institutions influence one another. Special topics, e.g., kinship, religion, will be chosen for comparative analysis. Ethnographic sources will be read as the basis for research and discussion.

SOC 175 GE SS
PRINCIPLES OF SOCIOLOGY (HONORS)
3 credits (3-0)
Prerequisite: Students must have a GPA greater than 3.0 and the permission of the chairperson
 Introduces the sociological perspective, theoretical paradigms, methods of sociological research and a wide range of concepts including culture, groups, socialization, stratification, race and ethnicity, sex and gender, and aging. Explores the social institutions of family, religion, education, politics, work and the economy, and health and medicine. Includes readings of primary sources as well as conducting a research project by gathering and analyzing data using survey techniques.

SOC 205 GE SS
MINORITY GROUPS IN U.S. SOCIETY
3 credits (3-0)
 Introduces students to both the historical and the contemporary experiences, diverse cultural values, life styles and contributions of a cross-section of racial and ethnic groups, and other minority groups such as women and the aged.

SOC 210
METHODS OF SOCIAL CASEWORK AND COUNSELING
3 credits (3-0)
 An introductory study of social work methods: interviewing, diagnostic assessment, casework, counseling, problem solving, service coordination, placement and others used in social service agencies, institutions, programs and organizations.

SOC 222 GE SS
POLITICAL SOCIOLOGY
3 credits (3-0)
 Analyzes the social conditions that affect government, politics, and law. Some topics discussed: democracy in theory and in practice, political socialization, and the nature of mass movements.

SOC 223 GE SS
SOCIAL STRATIFICATION
3 credits (3-0)
 Various theories concerning the origin and role of social stratification and attempts to analyze the bearing of class structure on current racial and ethnic tensions.

SOC 224 GE SS
MARRIAGE AND THE FAMILY
3 credits (3-0)
 Analyzes the nature and role of the family by focusing on the institution of marriage and such related matters as separation, divorce, and the rearing of children.

SOC 225 GE SS
JUVENILE DELINQUENCY
3 credits (3-0)
 Examines the nature and extent of juvenile crime, juvenile delinquency as a social and cultural problem, social and cultural factors in the explanation of delinquent behavior, types of offenders, theories of delinquency, and treatment and prevention of delinquency.

SOC 231 GE SS
INDIANS OF THE AMERICAS
3 credits (3-0)
 A comparative analysis of the native Indian cultures of the Americas. Their traditions and more are explored from an archeological and anthropological perspective. Topics discussed are origin of the Indians, subsistence patterns, religion, social systems, magic, medicine, architecture, art, and music.

SOC 234 GE SS
SOCIOLOGY OF WORK AND ORGANIZATIONS
3 credits (3-0)
Prerequisite: SOC 121
 Provides students with the opportunity to examine the relationships between individuals and the economic sector of society, with emphasis upon the world of work. Special focus will be given to the sociology of industry, especially the topics of: power, theories of human motivation and management, multinational corporations, social stratification, employment, organizations and bureaucracies and the possibilities of alternative workplace situations.

SOC 235 GE SS
LAND AND PEOPLE OF THE SOUTH WEST - ANTHROPOLOGICAL FIELD EXPERIENCE
3 credits (3-0)
 Examines the culture of the Indians of the Southwest, focusing on the Pueblo tradition. Theoretical framework of cultural ecology will be utilized to explore the rich cultural history of the region. Anthropological field methodology will be stressed as students carry out closely supervised research projects while living in a Pueblo village and participating in village life. Offered during Summer Session only.

SOC 240 GE SS
PERSPECTIVES ON SEXUAL IDENTITY
3 credits (3-0)
Prerequisite: PSY 123 or SOC 121 or SOC 123 or permission of department chairperson
 Examines the processes involved in the formation of sexual identity from psychological and anthropological perspectives, including contemporary, historical and cross - cultural viewpoints. Covers biological, cultural and psychological determinants of sex role behaviors and gender identification. Team taught by psychology and anthropology/sociology faculty. May be taken to satisfy 3 credits in either psychology or sociology but not both.

SOC 260 GE SS
MULTI-CULTURAL LONDON-THE ANTHROPOLOGY OF THE CITY
3 credits (3-0)
 Focusing on London, urban patterns of social, economic and political activity are explored as well as emerging metropolitan structures. Theoretical perspectives on the evolution of cities and their cultural roles are examined. The methodological and theoretical contributions of anthropology to urban studies are discussed while dynamics of urban life are analyzed through ethnographies. Offered during Summer Session only.

SOC 261 GE SS
STEREOTYPES AND THE IRISH: ANTHROPOLOGY OF IRELAND
3 credits (3-0)
 Examines the culture of Ireland, focusing on an analysis of common exogenous stereotypes of the Irish. These stereotypes are addressed within the theoretical framework of cultural anthropology applied to an exploration of social structure, economy, language and religion in contemporary Ireland. The dynamics of Irish culture are analyzed through ethnographies and supervised field experiences. Offered in summer session only.

SPANISH

SPA 121 GE HUM
ELEMENTARY SPANISH I
3 credits (3-0)
 Use of integrated materials enables students to acquire and employ the fundamentals of reading, writing, and speaking the language. Laboratory work is required. For students with little or no background in Spanish.

SPA 122 GE HUM
ELEMENTARY SPANISH II
3 credits (3-0)
Prerequisite: SPA 121 or equivalent
 A continuation of SPA 121.

SPA 124 GE HUM
CONVERSATIONAL SPANISH
3 credits (3-0)
 Fundamentals of speaking are introduced to provide students with basic conversational skills of the language. Laboratory work is required. This course does not satisfy the foreign language requirement for the Associate in Arts Degree.

SPA 210 GE HUM
SPANISH FOR HISPANICS
3 credits (3-0)
 Designed to improve language skills in speakers of Spanish as the home language. Emphasis is placed on grammar needed to reach command of reading and writing skills. The course highlights some differences between English and Spanish language usage. Class work is entirely in Spanish.

SPA 221 GE HUM
INTERMEDIATE SPANISH I
3 credits (3-0)
Prerequisite: SPA 122 or equivalent (two years of high school Spanish)
 General review of grammar and fundamentals. Conversation is emphasized. Reading selections include works by typical Spanish authors and excerpts dealing with Hispanic civilization. Laboratory work is required.

SPA 222 GE HUM
INTERMEDIATE SPANISH II
3 credits (3-0)
Prerequisite: SPA 221 or equivalent
 A continuation of SPA 221.

SPA 224 GE HUM
CONTEMPORARY HISPANIC LITERATURE
3 credits (3-0)
Prerequisite: SPA 221 or equivalent
 Class work includes reading, analysis, and discussion of major Spanish and Latin American writers from the Generation of '98 and the Modernist Period to the present. Readings and discussions mainly in Spanish.

SPA 226 **GE HUM**
HISPANIC CIVILIZATION
(Ibero-American)
3 credits (3-0)

Prerequisite: SPA 221 or equivalent

Reading, analysis, and discussion of Hispanic-American civilization and culture from pre-Columbian times to the present. Spanish readings are discussed mainly in Spanish.

SPA 228 **GE HUM**
SPANISH CIVILIZATION AND CULTURE
(Iberian)
3 credits (3-0)

Prerequisite: SPA 221 or equivalent

Political, economic, social and cultural development of Spain from prehistoric times to the present. Readings and discussions mainly in Spanish.

SPA 231 **GE HUM**
SPANISH CONVERSATION AND
COMPOSITION I
3 credits (3-0)

Prerequisites: SPA 222 or equivalent (three or more years of high school Spanish)

An intensive study of advanced Spanish grammar specializing in analysis of grammatical and syntactical structures of modern Spanish. Selections from contemporary Spanish and Latin American authors are analyzed according to new linguistic methods. Emphasis is also given to special problems of English-speaking students. Course is conducted mainly in Spanish.

SPA 232 **GE HUM**
SPANISH CONVERSATION AND
COMPOSITION II
3 credits (3-0)

Prerequisite: SPA 231

A continuation of SPA 231.

SPEECH

SPE 121 **GE HUM**
FUNDAMENTALS OF PUBLIC SPEAKING
3 credits (3-0)

Introduction to the theory and practice of public address; the study of representative public addresses, and the preparation and delivery of short speeches.

SPE 124 **GE HUM**
ORAL INTERPRETATION
3 credits (3-0)

The theory and practice of effective oral reading. Materials include selections in poetry, prose, and drama. The appreciation of literary forms through individual oral performance and choral readings. Development of effective voice and articulation.

SOCIAL SCIENCE

SSC 121
DIMENSIONS OF PREJUDICE, GENOCIDE,
AND THE HOLOCAUST
3 credits (3-0)

Deals with the dynamics of prejudice as a psychosocial phenomenon and how this gives rise to genocidal movements. The material will be explored in terms of the history; psychology and sociology of prejudice.

SSC 131 **GE SS**
COMPARATIVE POLITICAL AND
CULTURAL SYSTEMS
3 credits (3-0)

The cultural and political systems of the major European powers, developing nations, and Hispanic nations are compared. Specific emphasis is placed on the different types of political and cultural systems that are found in capitalistic, socialistic, and communistic nations with different cultures, languages, and business environments. Emphasis on the relationship of the political and cultural influences on the business environment in these various nations.

SSH 010
FRESHMAN SEMINAR
credit equivalent (3-0)

Increases students' ability to think critically, abstractly and systematically. Students are required to paraphrase, analyze, outline and summarize various types of problems in order to expand the deductive thinking and problem-solving skills most demanded in an academic environment. Study skills and the development of a positive self-concept are also emphasized.

THEATRE

THE 105 **GE HUM**
INTRODUCTION TO THEATRE
3 credits (3-0)

An investigation of the on stage and backstage elements of contemporary theatre, film and television. Emphasis on the collaboration of performers, writers, directors, designers and technicians and the role of the audience. *Attendance at professional and college productions is required.*

THE 123 **GE HUM**
THEATRE HISTORY
3 credits (3-0)

A study of theatre as an art form with an emphasis on production practices in the Golden Ages of theatre: Greek, Roman, Medieval, Renaissance, and Restoration. Representative plays, theatres, acting, staging and design styles explored. Required of theatre majors, open to all students. *Attendance at performances required.*

THE 124 **GE HUM**
CONTEMPORARY THEATRE
3 credits (3-0)

A study of the development of twentieth century theatre art from Realism to New Theatre eclectic styles. The background and evolution of Realism, Expressionism, Theatre of the Absurd, and current theatre movements explored. Required of theatre majors, open to all students. *Attendance at performances required.*

THE 131
ACTING I
3 credits (3-0)

Basic techniques of theatrical communication. Pantomime and improvisational exercises for perception and self-awareness. Use of the voice, body to interpret emotion and project characterization. Practical application through learning to approach the performing of scenes. *Attendance at performances required.*

THE 132
ACTING II
3 credits (3-0)

Prerequisite: THE 131

Further development of the basic techniques of theatrical communication. Learning to externalize through stage movement. Scene study to utilize clues in the script to fulfill the author's or director's intent. Study of the director-actor-audience relationship. Practical application through rehearsal and performance of one-act plays. *Attendance at performances required.*

THE 145
STAGECRAFT
3 credits (2-2)

A practical theatre studio course to instruct students in the basic elements of set and lighting design and construction. Practical application of theoretical knowledge in the theatre shop and college productions. *Required of theatre majors.*

THE 146
PLAY PRODUCTION
3 credits (2-2)

A practical theatre studio course in the elements of play production including design concepts, two-dimensional working drawings, and scale model and lighting techniques. Practical application of theoretical knowledge in the theatre shop and college productions. *Required of theatre majors.*

THE 152
AMERICAN MUSICAL THEATRE
3 credits (3-0)

All aspects of America's most popular art form. Includes many trips to see musicals on stage and backstage as well as lectures and classroom discussions of the American musical theatre. *A laboratory fee covers the cost of tickets.*

THE 208
THEATRE FIELD EXPERIENCE
3 credits (1-12)

Prerequisite: THE 145 or permission of department chairperson

A cooperative work experience program whereby students are employed in a performing arts position in order to gain some of the practical experience necessary for success in various aspects of theatre: artistic, technical and/or administrative. Supervision of this departmentally approved position is provided by the College through on-the-job visits and individual progress review sessions. Students are required to establish learning objectives related to their position in order to effect the attainment of specific job competencies. Students attend a weekly, one-hour seminar on campus and work a minimum of 13 hours a week. *Individuals must be recommended by the faculty and the chairperson of the department. For additional details see the department chairperson.*