

# Course Descriptions

---

## EXPLANATION OF CREDIT

The allocation of credits to courses is based on New York State Department of Education regulations in higher education.

Generally, the formula is that one semester-hour of credit is awarded in a course meeting for 15 weeks for each hour of class or lecture for which considerable out-of-class preparation is required; or for a unit of two or three “laboratory,” “gym,” or “clinic” hours.

- **rec** (recitation) — the traditional recitation-discussion-seminar form.
- **lect** (lecture) — several sections have been combined into a single group in which the presentation is sometimes accompanied by a demonstration and audiovisual material.
- **lab** (laboratory) — the class meets in a specially equipped area where students may do individualized work in experimentation with instruments, tools and similar equipment
- **clin** (clinic) — supervised, individualized clinical experience in a hospital setting including group and individual instruction.

*Prerequisites* must be completed with a passing grade before the subsequent course may be taken.

*Corequisites* may be taken simultaneously or before a given course.

The College reserves the right to limit the number of students registered in any course, or to cancel any course for which there is insufficient enrollment, or to make any changes in prerequisites, corequisites, course descriptions, credit allocations, schedule and section offering in the academic year as it may deem necessary for the proper and efficient functioning of the College.

Students who place in ENG 01 **and** RDL 01 are allowed to register only for the following credit-bearing courses:

ELC 11 (corequisite MTH 06; recommended for Electrical Technology students only)  
ELC 15 (corequisite MTH 05; recommended for Electrical Technology students only)  
GEO 10  
HIS 11  
HLT 91 and Physical Education courses  
KEY 11  
MEC 11 (by placement)  
CMS 10 (entry into course dependent upon speech screening)  
CMS 12 (not open to students simultaneously registered for any ESL courses)  
Art studio courses  
Music performance courses  
Language courses (Level 12 or above, by placement)

Students who place in ENG 02 **or** RDL 02 may also register for the following credit-bearing courses:

ART 10	MUS 10
ART 11	MUS 11
ART 12	MUS 12
DAT 30	PEA (activity courses)
ECO 11	PHL 11
ECO 12	POL 11
HIS 10 or 11	PSY 11
	SOC 11

**■ ACCOUNTING***Business and Information Systems Department***ACC 11** 5 rec 4 cr**Fundamental Accounting I**

Principles of accounting applied to single proprietorship. Journalizing and posting, adjusting and closing entries; preparation of the work sheet, balance sheet and income statement.

**Corequisite:** *ENG 02 or RDL 02 if required.***ACC 12** 5 rec 4 cr**Fundamental Accounting II**

Extension of the principles of accounting to partnerships and corporations.

**Prerequisite:** *ACC 11.***ACC 13** 5 rec 4 cr**Intermediate Accounting**

Theory and problems of accounting applied to preparation of financial statements; problems of valuation; and income determination.

**Prerequisite:** *ACC 12.***ACC 15** 3 rec 1 lab 3 cr**Accounting Information Systems**

Information systems and their relationship to the accounting function. Emphasis on interaction of accounting and information systems, application of information systems to financial/accounting management decisions, and control of these systems. A computerized accounting information package will be explored.

**Prerequisite:** *ACC 12.***■ ANIMAL CARE AND MANAGEMENT***Department of Biology and Medical Laboratory Technology***ACM 11** 3 rec 3 cr**Introduction to Animal Care and Management**

This course will focus on animal diversity, including general characteristics, adaptations, and evolutionary history of classes and families, as well as the natural history of representative species; animal behavior, with an emphasis on how to apply the concepts of ethology to maintain animals in captivity; anatomy/physiology of mammals, birds, reptiles, amphibians, fish and invertebrates; animal care and management procedures, including feeding, recordkeeping, cleaning, animal husbandry, etc.; principles of zoo education and interpretation. Requires department permission.

**Corequisite:** *BIO 15***ACM 90** 500 hours 6 cr

This will be a 500-hour hands-on experience for students who successfully complete the Animal Care and Management course. The internship will provide valuable opportunities through which students will be able to put into action practices they learned in the classroom. There will be two main internship tracks available. The first will focus on both basic procedures and specific applications relating to feeding and nutrition, behavioral enrichment, animal handling, animal housing, and sanitation procedures. The second will focus on zoo education and interpretation. Students who choose this track will learn how to develop lesson plans and educational activities



for a range of student achievement levels, learn to use live animals in educational demonstrations, and assist zoo instructors in classes for a variety of audiences.

*Requires permission of Department Chairperson.***Prerequisite:** *ACM 11 with a grade of C+ or better.***■ ANTHROPOLOGY***Department of Social Sciences***ANT 11** 3 rec 3 cr**Introduction to Anthropology**

Development of human societies and cultures from early origins to present day. Touches all major fields of anthropology, such as physical anthropology, linguistics, and archeology, but focuses on cultural anthropology. Issues of economics, politics, family structure and religion from an anthropological point of view.

**Prerequisite or corequisite:** *ENG 02 or RDL 02 if required.***■ ART***Department of Art and Music***ART 10** 2 rec 1 cr**Art Survey**

Survey of art in selected historical periods of Western civilization. Note: Not open to students taking ART 11 or ART 12.

**Corequisite:** *ENG 02 or RDL 02 if required.***ART 11** 3 rec 3 cr**Introduction to Art**

Survey of our artistic heritage from the classical period of Western civilization to Modern Art. Discussion of social and philosophical influences. Art museum visits.

**Corequisite:** *ENG 02 or RDL 02 if required.***ART 12** 3 rec 3 cr**Introduction to Western and Non-Western Cultures**

Includes African, pre-Colombian and Oceanic; their relationship to the art of the Western world. (May be taken to fulfill ART 11 requirement.)

**ART 15** 4 studio 2 cr  
**Graphic Design Basics**

Studio course introducing the principals of two-dimensional design and color. Experiments in line, value, texture, space, and illusions of volume and their applications to creative and dynamic composition will be applied to conceptual thinking and the development of problem solving skills for graphic design projects of increasing complexity.

**ART 21** 4 studio 2 cr  
**Drawing**

Studio course to develop basic skills and concepts in drawing. Emphasis on drawing anatomy and portraits. Use of different mediums and techniques. Students draw from professional models.

**ART 22** 4 studio 2 cr  
**Painting**

Studio course to develop basic skills and concepts in painting in oil and acrylics. Fundamentals of form, color, texture, and composition as applied to still life, landscape, portraits, figure studies, and abstraction. Development of student's personal style.

**ART 32** 4 studio 2 cr  
**Printmaking**

Practical studio course in silkscreen printing and intaglio/relief printing. Basic printmaking techniques are covered with an emphasis on proper use and care of equipment. Primary focus is on the use of photo-sensitive methods. Students will be introduced to graphic arts printing techniques concepts including transparency of ink, separations, registration and editioning. Through museum and gallery visits, as well as library resources, students are made familiar with the developments in printmaking of both the past and present. Portfolio presentation is explained including proper mounting and matting methods and the care of fine arts graphics.

**ART 41** 4 rec 2 cr  
**Ceramics I**

Fundamental techniques of pottery and ceramics. Emphasis on standards of design and development of craftsmanship. Art museum visits.

**ART 42** 4 rec 2 cr  
**Ceramics II**

Building, decorating, glazing techniques. Emphasis on three dimensional design and craftsmanship.

**ART 52** 3 rec 3 cr  
**Oriental Art\*****ART 55** 3 rec 3 cr  
**Modern Art**

Important movements in Modern Art, including Impressionism, Post-Impressionism, Expressionism, Cubism, Dada, Surrealism, Abstract Expressionism, Pop Art, Minimal Art, Conceptual Art and Modern Architecture. Lectures, films and visits to museums, art galleries, architectural monuments.

**Prerequisites:** ART 11 or by departmental permission.

**Corequisite:** ENG 02 or RDL 02 if required.

\*Not offered on a regular basis. Course descriptions available upon request.

**ART 56** 3 lect 3 cr  
**Graphic Design History**

Study of 19th and 20th century commercial and advertising design exploring concurrent connections to developments in Modern Art. Coursework will include exams, written reports, as well as museum visits.

**Prerequisites:** ART 11 or by departmental permission.

**ART 71** 4 studio 2 cr  
**Photography**

Basic photographic techniques as a creative medium; emphasis on composition and lighting; developing, printing and enlarging. Students provide their own cameras and materials.

**ART 72** 4 studio 2 cr  
**Digital Photography**

This course will emphasize the basics of composition, lighting, color correction, and output. Students will study composition and lighting both in the field and in a commercial studio setting. Computer imaging software will be used for color correction and cropping. Students will learn to produce professional/commercial quality photography using digital equipment. This course requires students to have access to a digital camera.

**ART 79** 4 studio 2 cr  
**Typography/Introduction to Computer Design**

Hands-on typography survey covering history of type, from the stone age to the electronic age. Coursework will focus on creative exercises that will reinforce the understanding of type; its style, structure, measurement and its design applications. Students will be introduced to page layout software (currently Quark XPress). They will learn the basic functions of this widely used program as applied to typography studies, as well as through hands-on assignments.

**ART 81** 4 studio 2 cr  
**Computer Design**

Beginning computer course in graphics and graphic design for advertising art. Introduction to computers, software, and Macintosh facilities. Concept development from thumbnail sketches to finished graphics using computer software. Projects include considerations such as effective color presentation, layout design, typography, and basic graphs. Projects lead to a portfolio for students entering the graphics field.

**Prerequisite:** ART 15 and ART 79 or by departmental permission

**ART 82** 4 studio 2 cr  
**Illustration**

Problems of making illustrations and the direct relationship between technique, concept and execution. Practical aesthetic problems involved in illustrating work done in class can be used in a portfolio. Students will prepare comps and finished art work ready for reproduction. Assignments teach the student to solve problems of interpretation for children's books, fiction and non-fiction, newspapers and magazines. Students are helped to develop their own styles. Exploration of these concepts on the computer.

**Prerequisite:** ART 21 or by departmental permission.

**ART 83** 4 studio 2 cr  
**Graphic Design Principles**

The application of 2D design and typography skills applied to problem-solving in visual communications scenarios. From symbol-making, logo design, print ads and posters, and signage systems, students will produce hand and computer generated professional quality work. Emphasis will be placed on the creative process. Studio skills as well as presentation skills will be explored.

**ART 84** 4 studio 2 cr  
**Computer Imaging**

A course concerned with Digital Imaging for Print, the World Wide Web and Multimedia. Students will experiment with scanned and self-generated images using industry-standard (currently Photoshop) imaging software. Integration with other applications will be a goal. The software programs' prodigious versatility will be applied to the merging and transformation of photographic images in creative and unexpected ways. Professional level skills in this area, vital to a graphic design professional will be emphasized.

**Prerequisite:** ART 15 or by departmental permission.

**ART 86** 4 studio 2 cr  
**Computer Illustration**

Computer-based instruction exploring advanced topics in illustration using current industry standard drawing programs. Emphasis on conceptualization through finish and technical excellence. Finished class assignments will provide portfolio samples.

**Prerequisite:** ART 21 and ART 81 or by departmental permission.

**ART 87** 4 studio 2 cr  
**Graphic Design for the World Wide Web**

Building upon skills acquired in previous computer graphics courses, this hands-on computer laboratory workshop focuses upon advanced software and design proficiency. Students will learn professional Web Design and Web Multimedia software. Projects will include various graphics for the web as well as the creation of an interactive website.

**Prerequisites:** ART 79, ART 81, and ART 84 or by departmental permission.

**ART 88** 4 studio 2 cr  
**Multimedia Design**

Course will introduce current industry-standard multimedia software and aesthetic design. Course will expand upon prior design and software knowledge as applied to motion graphics. Students will be able to create personal multimedia portfolio presentations on CD-ROM, as well as business presentations and multimedia interfaces.

**Prerequisites:** ART 79 and ART 86 or by departmental permission.

**ART 90** 4 studio 2 cr  
**Graphic Design Project**

This course encompasses both the development of a multi-faceted graphic design project and the production procedures necessary for projects to be printed professionally. Design projects will explore the creation of identity programs that will include multiple components. The interaction of design and production will be emphasized. Topics will include project management, understanding font utility programs and file preparation. How to produce reliable digital color proofs, create color separations and understanding color calibration will be covered.

**Pre/Corequisite:** ART 86 or by departmental permission.

**ART 91** 4 studio 2 cr  
**Portfolio Seminar**

A project based seminar wherein the development of professional portfolios, print and/or multimedia is the goal, along with job-seeking skills.

**Prerequisites:** ART 79, ART 81, ART 90.

**Pre/Corequisite:** ART 86.

**■ ASTRONOMY**

*Department of Physics and Technology*

**AST 11** 2 lect 1 rec 2 lab 4 cr  
**Stellar Astronomy**

Early astronomy; astronomical coordinate systems; structure and evolution of the sun, stars and stellar systems; spectroscopy; the Milky Way and external galaxies; cosmological models and implications.

**Prerequisite:** MTH 03, or permission of the department;

**Corequisite:** ENG 02 or RDL 02 if required.

**AST 12** 2 lect 1 rec 2 lab 4 cr  
**Planetary Astronomy**

History of astronomy: Structure of the universe; origin and evolution of the solar system including the sun, planets, and minor bodies; architecture of the solar system with emphasis on orbital motions, planetary surfaces, atmospheres and internal structures; the expanding universe.

**Prerequisite:** ENG 02 or RDL; MTH 03 or equivalent.

**■ AUTOMOTIVE TECHNOLOGY**

*Department of Physics and Technology*

**ACS 11** 3 rec 6 lab 6 cr  
**Engine (Internal Combustion)**

Operation service procedures, diagnostic methods of an internal combustion engine. An internal combustion engine will be completely disassembled, inspected, precision measured repaired, reassembled and tuned up.

**ACS 12** 1 rec 4 lab 3 cr  
**Brakes**

Construction, servicing and repair of both disc and drum brakes of the automobile.

**ACS 13** 2 rec 2 lab 3 cr  
**Fuel Systems**

Fundamentals of design, operation and assembly of the automotive system, integrated into repair service and overhaul of the essential components of the fuel systems.

**ACS 14** 1 rec 4 lab 3 cr  
**Manual Transmission and Rear Axle**

Operation and service procedures for the automotive manual transmission and rear axle. A manual transmission and rear axle will be completely disassembled, inspected and reassembled.

**ACS 21** 2 rec 4 lab 4 cr  
**Front Ends**

Diagnostic and service procedure, inspection, repair and alignment of the automobile's front end. The rear suspension system and steering gears will be developed and related to the front-end system.

**ACS 22** 1 rec 6 lab 4 cr  
**Automatic Transmission**

Operation and service of most conventional automatic transmissions. An automatic transmission will be completely disassembled, inspected and reassembled.

**Prerequisite:** ACS 14.

**ACS 23** 2 rec 4 lab 4 cr  
**Heating and Air-Conditioning**

Heating and air-conditioning system of an automobile. Emphasis on trouble-shooting and servicing the climate control system (heating and air-conditioning).

**ACS 24** 2 rec 2 lab 3 cr  
**Electrical Systems**

Operation, service and repair of automotive electrical starting, lighting, generating and ignition systems.

**■ BIOLOGY**

*Department of Biology and  
Medical Laboratory Technology*

**BIO 11** 2 lect 4 lab 4 cr  
**General Biology I**

Chemical basis of life; cellular structure, function and reproduction; photosynthesis and cell respiration; human anatomy and physiology; plant structure and function.

**Prerequisite:** RDL 02 and ENG 02 if required.

**BIO 12** 2 lect 4 lab 4 cr  
**General Biology II**

Continuation of BIO 11 with emphasis on plant and animal development; Mendelian and molecular genetics, evolution, animal and plant diversity and ecology.

**Prerequisite:** BIO 11.

**BIO 15** 2 lect 4 lab 4 cr  
**Zoology**

The diversity of the animal kingdom with emphasis on ecology, behavior, phylogeny, with medical and economic implications for humanity.

**Prerequisite:** BIO 11.

**BIO 18** 4 lect 4 cr  
**Human Biology**

A physiological study of the skeletal, muscular, integumentary, digestive, nervous, circulatory, excretory, respiratory, endocrine and reproductive systems of the human body; special senses.

**Prerequisite:** RDL 02 and ENG 02 if required.

**BIO 21** 3 lab 3 rec 4 cr  
**The Human Body**

Anatomy and physiology of the integumentary, digestive, nervous, circulatory, excretory, respiratory, endocrine and reproductive systems of the human body; special senses.

**Prerequisite:** RDL 02 and ENG 02 if required.

**BIO 22** 2 lect 2 cr  
**Medical Terminology**

Acquaintance with medical concepts, medical terms and scientific principles; various ailments and diseases; tests used in their analyses; treatments and therapeutic techniques for alleviation and cure. Required for Medical Secretarial Assistants.

**Prerequisite:** RDL 02 and ENG 02 if required.

**BIO 23** 3 lect 3 lab 4 cr  
**Human Anatomy and Physiology I**

An integrated lab-lecture method for the study of the structure and function of the human organism. Includes basic chemistry, cellular anatomy and physiology, tissues, integumentary, skeletal, muscular, nervous and endocrine systems.

*Required for Allied Health Career Programs.*

**Prerequisite:** RDL 02 and ENG 02 if required.

**BIO 24** 3 lect 3 lab 4 cr  
**Human Anatomy and Physiology II**

An integrated lab-lecture method for the study of the structure and function of the human organism. Includes cardiovascular, lymphatic, respiratory, digestive, urinary and reproductive systems.

**Prerequisite:** BIO 23. *Required for health career students.*

**BIO 28** 3 lect 3 lab 4 cr  
**Microbiology and Infection Control**

Introduction to microbial structure, function and reproduction. Introduces the medical aspects of bacteriology, mycology, parasitology, virology, serology, immunology, epidemiology, and infection control.

*Required for Allied Health Career Programs.*

**Prerequisites:** BIO 23 and BIO 24 or permission of department chairperson.

**BIO 43** 2 lect 4 lab 4 cr  
**Microbiology\***

Introduction to basic microbiological concepts, including microbial structure, physiology, metabolism, genetics, growth and ecology; and applied microbiology.

**Prerequisites:** BIO 12 or BIO 24 and CHM 18.

**BIO 44** 2 lect 4 lab 4 cr  
**Diagnostic Microbiology\***

Advanced study of microorganisms with emphasis on diagnostic techniques for identifying pathogens. Included are morphological, cultural, biochemical, immunological and serological methods, and antibiotic testing.

**Prerequisite:** BIO 43.

**BIO 46** 1 lect 3 lab 2 cr  
**Clinical Techniques for Medical Personnel I**

Use and care of such instruments as the microscope, sphygmomanometer, basal metabolator, electrocardiograph, sterilizer, centrifuge and balance; urinalysis—physical, chemical and microscopic tests.

**Corequisites:** BIO 18 or BIO 21, and BIO 22.

**BIO 47** 1 lect 3 lab 2 cr  
**Clinical Techniques for Medical Personnel II**

Use and care of various medical instruments; sterile techniques; analysis of blood—complete blood count, hematocrit, sedimentation rate, blood glucose.

**Prerequisite:** BIO 46.

**BIO 50** 2 lect 2 lab 3 cr  
**Biology, Bioethics and Law**

Basic concepts on structure and function of the human body in conjunction with legal definitions and decisions, and ethical interpretations concerning biological/medical technology. Course includes material on contraception and sterilization, abortion, genetics, DNA manipulations, artificial insemination, in vitro fertilization, surrogate motherhood, death and dying, human experimentation, organ transplantation.

*Required for paralegal students; elective in other curricula.*

**Prerequisites:** RDL 02 and ENG 02 if required.



**BIO 52** 3 lect 3 lab 4 cr  
**Immunology**  
 Principles of humoral and cellular immunity. Immunological techniques for identification of infectious diseases and immune disorders; introduction to immunohematology (blood cell antigens) and tissue typing.  
**Prerequisites:** BIO 12 and CHM 18, or department approval.

**BIO 81** 3 lect 3 lab 4 cr  
**Introduction to Medical Laboratory Technology**  
 Basics of clinical laboratory science, focusing on human physiology and diagnostic testing.  
**Prerequisites:** BIO 11, CHM 17, or departmental approval.  
**Corequisites:** CHM 18.

**BIO 82** 2 lect 4 lab 4 cr  
**Clinical Hematology & Coagulation\***  
 Principles and practice of clinical laboratory techniques in hematology and coagulation: complete blood count, normal and abnormal smears, sedimentation rate and coagulation studies. Emphasis on both manual and automated techniques, principles and diagnostic implications.  
**Prerequisites:** BIO 12, BIO 81 and CHM 18, or departmental approval.

**BIO 83** 2 lect 4 lab 4 cr  
**Clinical Chemistry\***  
 Basic principles of clinical chemistry and quality assurance. Clinical chemistry tests: glucose, renal function tests, serum proteins, hepatic profile, electrolytes, enzymes, therapeutic drug monitoring. Emphasis on manual techniques, chemical principles and diagnostic implications.  
**Prerequisites:** BIO 81, CHM 18, and MTH 13, or departmental approval.

**BIO 84** 1 lect 4 lab 3 cr  
**Clinical Instrumentation\***  
 Principles of operation, maintenance, calibration and quality control of clinical laboratory instrumentation, e.g., spectrophotometers, ion - specific electrodes, electrophoresis and chromatography systems, cell counters. Clinical significance of abnormal findings will be discussed.  
**Prerequisites:** BIO 83 or departmental approval.

**BIO 90** 4 cr  
**Clinical Internship\***  
 One thousand hours of clinical laboratory training in a hospital laboratory. Placement for training is limited and cannot be guaranteed.  
**Prerequisite:** Completion of all other requirements and department approval.

**BIO 91** 2 lect 1 rec 3 cr  
**Biomedical Research I: Simulated Research/Symposium**  
 Scientific method and diverse symposium experiences. Students learn how to review scientific literature, evaluate research papers, write a scientific paper, present papers and design experiments. The symposium experience consists of visits to research laboratories, on-campus seminars with leading scientists and a national science conference.  
**Prerequisite:** Admission to the REAP Program.

**BIO 92** 300 hrs lab 3 cr  
**Biomedical Research II: Participatory Research**  
 Students have the opportunity to be part of a research team by working with leading scientific researchers in well-known research laboratories.  
**Prerequisite:** BIO 91 and admission to the REAP Program.

#### Exemption for MLT Courses

\* Students who have acquired knowledge and skills in clinical work experience or through specialized training in the armed forces are eligible for exemption exams. After completing such exemption exams, students will be granted credit with grade and index value for the appropriate courses. For further information, the student should consult the department chairman prior to registration.

#### ■ BOTANY

Department of Biology and Medical Laboratory Technology

Enrollment in Botany is limited to students in the Ornamental Horticulture curriculum or with special permission of the department. Offered at the New York Botanical Garden. See curriculum advisor, Dr. Annette Opler.

**■ BUSINESS***Business and Information Systems Department***BIS 12** 4 rec 3 cr  
**Multimedia Theory and Applications  
for Business**

Provides a theoretical understanding of multimedia technologies and fundamentals of multimedia software design and development. Students produce multimedia packages in business applications and their areas of specialization.

**Corequisites:** ENG 02 or RDL 02 if required; KEY 10 or equivalent skill level with permission of the department.

**BIS 13** 4 rec 3 cr  
**Introduction to the Internet and  
Web Development**

Introduction to using the Internet and World Wide Web (WWW) for business and general use. Emphasis on Internet tools which include E-mail, Chat rooms, Listservs, newsgroups, and Gopher as applied to business. Students optimize use of the Internet by learning how to identify and access information resources on the WWW through browsing, navigating, searching, and retrieving business-related information. Design and development of business-related Web pages.

**Prerequisites:** ENG 01 or RDL 02 if required; KEY 10 or equivalent skill level with permission of the department.

**BIS 14** 2 rec 2 lab 3 cr  
**Information Technology in Business**

This course focuses on obtaining a fundamental knowledge of the capabilities of information technologies and the role of information systems in business environments. Topics to be covered include business data communications, business information systems in organizations, and features of application software such as database management.

**Prerequisite:** ENG 11, KEY 10 or equivalent skill level with departmental permission, and DAT 30.

**BIS 23** 2 rec 2 lab 3 cr  
**Advanced Web Page Design and Development**

This course introduces advanced concepts of the World Wide Web to increase interactivity and enhance the appearance and impact of a Web page. Topics to be covered include graphics, creative layouts, image maps, framed Web pages, and JavaScript.

**Prerequisites:** ENG 11, KEY 10 or equivalent skill level with departmental permission, and BIS 13.

**BIS 31** 2 lec 2 lab 3 cr  
**E-Commerce**

This course is structured to provide an understanding of the complexities of the marketplace for E-Commerce and the design, maintenance, and administration of a Web-based E-Commerce site. It will also include identification of some E-Commerce sites that are currently utilized in business.

**Prerequisites:** BIS 13 and BUS 10.

**BUS 10** 3 rec 3 cr  
**Introduction to Business**

Introductory survey course to acquaint students with business as a field of study. Analysis of the role of business in society with emphasis on how the business system operates. Functional areas of accounting, marketing, finance, business law, management and information systems.

**Corequisite:** RDL 02 or ENG 02 if required.

**BUS 11** 4 rec 3 cr  
**Business Mathematics**

Principles and problems of interest, bank discounts, purchase discounts, installment sales, payrolls, depreciation, profit distribution, taxes and insurance.

**Prerequisite:** MTH 01,

**Corequisite:** RDL 02 or ENG 02 if required.

**BUS 21** 3 lect 3 cr  
**Small Business Management**

Basic principles of entrepreneurship, starting a business, financing, and issuing stock, personal selling, utilization of capital and business management are major topics.

**Prerequisites:** BUS 10, MKT 11.

**BUS 31** 3 rec 3 cr  
**Fundamentals of Warehouse Management**

Basic concepts of warehouse and distribution operations management including customer service, receiving, storing, picking and shipping goods. Materials handling and logistics, which covers inventory control, order processing, and forecasting are covered, as well as various transportation topics such as categories of transportation, safety and sanitation, freight brokering, and claims. The course details loss reduction techniques, computerized systems, bar coding, warehouse configurations, conveyors, lift trucks, docking, refrigeration, and federal, state and local laws which govern warehousing.

**Prerequisite:** BUS 10; ENG 01 and RDL 01 if required.

**Corequisite:** ENG 02 or ENG 10 or RDL 02 if required; MTH 01.

**BUS 32** 3 rec 3 cr  
**Fundamentals of Inventory Management**

This course covers basic concepts and techniques of inventory management, including inventory objectives and policies, independent demand inventory systems, inventory management tools and techniques, inventory management and financial analysis, physical controls in the warehouse environment, and distribution inventory planning and control (logistics).

**Prerequisite:** BUS 31; DAT 38; MTH03.

**Corequisite:** ENG 02 or ENG 10 and RDL 02 if required.

**BUS 33** 3 rec 3 cr  
**Fundamentals of Logistics Management**

This course will provide students with a broad overview of the functions performed at a distribution depot and the interactions among those functions, as well as interactions with customers and other agencies outside the depot. Topics covered will include depot functional areas, receiving, storage/warehousing, material issues, inventory processing, packaging, transportation, freight bill discrepancies, new programs/initiatives, and total asset visibility, electronic commerce/electronic data interchange (EC/EDI), and Distribution Standard System (DSS).

**Prerequisite:** BUS 31; MTH 03.

**Corequisite:** ENG 02 or ENG 10 and RDL 02 if required.

**BUS 41** 3 rec 1 lab 3 cr  
**Business Statistics**

Introduction to statistical methods as a basis for decision-making and operations control in business, utilizing principles of probability, sampling error, estimation and the descriptive methods of frequency distribution correlation, index number and time series analysis. Application to data pertinent to business and economic problems in such areas as accounting controls, production and marketing.

**Prerequisite:** Three years of high school mathematics or MTH 06;  
**Corequisite:** ENG 02 or RDL 02 if required.

**BUS 51** 3 rec 3 cr  
**Business Organization and Management**

An introduction to basic managerial concepts and practices. The nature of organizations and their relationships with external forces (social, economic, legal/political, competitive, technological and global) are explored. Key management functions, including decision-making, planning, organizing, directing and controlling are examined. Analytical and hands-on skills are further developed by introducing students to the application of mathematical models in the solution of managerial problems.

**Corequisite:** ENG 02 or RDL 02 if required and MTH 05 if required.

**BUS 52** 3 rec 3 cr  
**Organizational Behavior**

This course explores the impact of individuals, groups, organizational structure, and the external environment on human behavior within organizations. A managerial perspective is established by examining how organizational behavior concepts are applied to improve performance in the workplace. Topics discussed include organizational design, corporate culture, motivation and reward systems, leadership, group dynamics, and decision-making.

**Prerequisite:** BUS 51.

**BUS 53** 3 rec 3 cr  
**International Management**

This course introduces the student to concepts and techniques employed in managing multinational organizations. It provides a basic understanding of the challenges confronted by management and the knowledge needed to operate successfully in global markets. The impact of rapidly changing cultural, political, legal, technological, and competitive forces on key managerial functions is also examined.

**Prerequisite:** BUS 51.

**CHEMISTRY**

*Department of Chemistry and Chemical Technology*

**CHM 02** 1 rec 2 lect 2 lab 0 cr  
**Introduction to Chemistry\***

Introduction to types of matter, elements, compound, formulas, equations, use of arithmetic for chemical problem-solving, nomenclature, atomic structure and chemical bonding. Basic laboratory skills.

**Corequisites:** MTH 03 or 05 and RDL 02 or by departmental approval.

**CHM 10** 3 rec 3 lab 4 cr  
**Chemistry in Everyday Life**

An elementary course for Liberal Arts and other non-science students which shows the significant role that chemistry plays in our everyday lives. Topics include, in addition to applications of basic principles, pollution and the environment, proteins, chemicals of food, poisons, toxins, drugs, chemicals and the mind. Laboratory provides laboratory experience and illustrates relevant ideas in the lecture. It fulfills the laboratory science requirement for business, education associate and liberal arts students.

**Corequisites:** ENG 02 or RDL 02 if required.

**CHM 11** 1 rec 2 lect 3 lab 4 cr  
**General College Chemistry I\*\***

Fundamental principles and theories of chemistry, aspects of atomic structure and bonding, chemical calculations, states of matter, solutions. Laboratory: chemical techniques and principles.

**Prerequisites:** Placement Exam or CHM 02; and MTH 03 or MTH 05.

**CHM 12** 1 rec 2 lect 3 lab 4 cr  
**General College Chemistry II**

Solutions, kinetics, equilibria, electrochemistry, properties of non-metallic and metallic elements, nuclear chemistry, organic chemistry. Laboratory: chemical techniques and principles, and qualitative analysis. (Chemistry and other science majors should take CHM 22 in the second semester. Engineering Science majors may choose either CHM 12 or CHM 22 in the second semester.)

**Prerequisite:** CHM 11.

**CHM 13** 3 rec 3 cr  
**Chemistry in Daily Living**

An elementary chemistry course for students in a curriculum which requires only a 3-hour science course. The course shows the significant role that chemistry plays in our everyday lives. In addition to applications of basic principles, topics include pollution and the environment, proteins, chemicals of food, poisons, toxins drugs, chemicals and the mind.

**Corequisite:** ENG 02 or RDL 02 if required.

**CHM 17** 1 rec 2 lect 3 lab 4 cr  
**Fundamentals of General Chemistry I**

Introductory course in general chemistry, atomic theory, formulas and equations, electron configurations, periodic table, chemical bonding, molecular structure, calculations, gas, liquid and solid states, solutions. Laboratory exercises illustrate principles of course and laboratory techniques.

**Prerequisites:** Placement exam or CHM 02; and MTH 03 or MTH 05; and RDL 02

**CHM 18** 1 rec 2 lect 3 lab 4 cr  
**Fundamentals of General Chemistry II**

Continuation of CHM 17. Ionic reactions; acid-base theories, pH, chemical equilibria, structure, nomenclature and properties of hydrocarbons, alcohols, ethers, carbonyls, acids, esters, fats, lipids, amino acids, and proteins, carbohydrates.

**Prerequisite:** CHM 17.

\* Students who have completed one year of chemistry in high school and plan to major in Engineering Science, Medical Laboratory Technology, Nursing, and other science curricula are required to take a placement examination. Students with an insufficient background in high school chemistry or students who fail the placement examination and wish to specialize in one of the

above curricula are required to take CHM 02. This course is not intended for non-science Liberal Arts students.

\*\*Required for students in Engineering Science and other science curricula. This course is not intended for non-science Liberal Arts students.

**CHM 22** 1 rec 2 lect 6 lab 5 cr  
**General Chemistry II with Qualitative Analysis**

Emphasis on solutions, equilibria, acids and bases, ionization equilibria, solubility product, complexions, oxidation-reduction and survey of metallic and non-metallic elements, organic and nuclear chemistry. Laboratory: qualitative analysis of solutions; salts and alloys.

**Prerequisite:** CHM 11.

**CHM 27** 2 lect 2 cr  
**Principles of Laboratory Safety**

Presents the basic concepts of laboratory safety. Topics covered include legal issues, chemical and biological hazards, storage, laboratory design, and emergency responses.

**Prerequisite:** CHM 11 or CHM 17.

**CHM 31** 1 rec 3 lect 4 lab 5 cr  
**Organic Chemistry I**

Structure, nomenclature, properties and reactions of organic compounds including electronic theory and mechanism. Laboratory: preparation, purification and identification of representative organic compounds.

**Prerequisites:** CHM 12, 18 or CHM 22.

**CHM 32** 1 rec 3 lect 4 lab 5 cr  
**Organic Chemistry II**

Organic Spectroscopy (IR, NMR, UV, etc.), electronic theory applied on conjugated and aromatic systems, physical and chemical properties of the main classes of organic molecules; aromatics, alcohols, aldehydes and ketones, acids, amines, amides, peptides, carbohydrates.

**Prerequisite:** CHM 31.

**CHM 33** 2 lect 6 lab 4 cr  
**Quantitative Analysis**

Theory and laboratory methods of quantitative chemical analysis with laboratory determinations employing gravimetric and titrimetric (volumetric) methods, including acid-base, precipitation and oxidation-reduction reactions; use of chelating agents and analytical instruments.

**Prerequisite:** CHM 22.

**CHM 37** 1 rec 2 lect 3 lab 4 cr  
**Quantitative Instrumental Analysis**

Covers basic discussions of the theory, operation and analytical applications of spectroscopy and chromatography. This course begins to develop expertise in techniques involving the operation of many common laboratory instruments and how they are used in quantitative analysis with specific applications in the pharmaceutical field.

**Prerequisite:** CHM 22.

**CHM 38** 1 lect 2 lab 2 cr  
**Computer Applications in Chemistry**

Introduction to computer applications in chemistry including: ChemOffice, Excel, PowerPoint, Internet searches and research, and molecular modeling programs.

**Prerequisite:** CHM 11 or CHM 17.

**CHM 39** 3 lect 3 cr  
**Foundations of Pharmaceutical Process Technology**

Discusses the wide variety of products generated by the US pharmaceutical and chemical process industry; focuses on changing government regulations, environmental health and safety issues, and changing technologies. Provides knowledge of the chemical technician's role in the pharmaceutical and chemical process industry.

**Prerequisite:** CHM 22.

**CHM 40** 3 lect 3 cr  
**Pharmaceutical and Chemical Technology**

Introduction to chemical processes and methods currently used in industry, including fluid flow, heat transfer, plant utilities, distillation, extractions, crystallization, filtration, drying, etc. Students will also investigate current topics and technology applications. Students choose a current method and write a comprehensive review for its use and applications. Some fieldwork investigations, library, or computer investigations may be required.

**Prerequisite:** CHM 39.

**COMMUNICATION**

*Department of Communication Arts and Sciences*

**CMS 01** 3 rec 0 cr  
**Basic Spoken English for the Non-Native Speaker**

Introduction to basic spoken English through the study of sounds, vocabulary, and grammar. Oral exercises and practice.

**Prerequisite:** Permission of department required.

**CMS 09** 1 rec 0 cr  
**Speech Clinic**

Clinical program of speech therapy for organic and functional disorders such as lisp, stuttering and related articulatory difficulties. Students are assigned on the basis of Speech Placement Screening, diagnostic interview, or referral by department faculty. Required course for students where evaluation indicates need.

**CMS 10** 3 rec 3 cr  
**Phonetics**

Study of contemporary American English through phonetic analysis; practice in broad and narrow transcription, using the International Phonetic Alphabet, and exercises designed to develop auditory and kinesthetic sensitivity to phonetic distinctions.

**CMS 11** 3 rec 3 cr  
**Fundamentals of Interpersonal Communication**

Dynamics of communication through examination of theory and discussion. Designed to provide understanding of communicative processes; opportunities for each student to experiment with personal communicative activity.

**Prerequisites:** ENG 01 and RDL 01 if required;

**Corequisite:** ENG 02 or ENG 10 or RDL 02 if required.

<p><b>CMS 12</b> <span style="float: right;">2 rec 2 cr</span>  <b>Voice and Diction: Business and Professional Speech</b>            Study of voice and articulatory factors in effective speech communication, with special attention to individual needs through speech diagnosis, development of auditory, discrimination, and exercises geared to individual and group needs. Designed for the student who needs more effective speech communication for business and professional environments.  <b>Corequisite:</b> ENG 01.</p>	<p><b>CMS 62</b> <span style="float: right;">3 rec 3 cr</span>  <b>Beginning Film and Video Production</b>            Introduction of film video production. Opportunities for students to create narratives using film or video equipment. Emphasis is on the responsibility of the director both for the artistic conception and technical completion of a finished project. Fundamentals of screenwriting, storyboarding, cinematography, exposure, lighting, editing and sound design covered.  <b>Prerequisite:</b> CMS 61.</p>
<p><b>CMS 20</b> <span style="float: right;">3 rec 3 cr</span>  <b>Public Speaking and Critical Listening</b>            Principles and practice of contemporary forms of public speech communication; informative, persuasive, inspirational, and entertaining; principles and practice of critical listening; analysis and evaluation of public communication.  <b>Prerequisites:</b> ENG 01 and RDL 01 if required.  <b>Corequisite:</b> ENG 02 or ENG10 or RDL 02 if required.</p>	<p><b>CMS 68</b> <span style="float: right;">3 rec 3 cr</span>  <b>Television Performing</b>            Provides training in performance and communication skills utilized in television production: announcing, interviewing, reporting. Practice in reading from a script, voice and diction, extemporaneous delivery, questioning, using teleprompters, microphone techniques, camera presence, movement and makeup.  <b>Prerequisite:</b> RDL 02, ENG 02.  <b>Corequisite:</b> CMS 11 or permission of the instructor.</p>
<p><b>CMS 22</b> <span style="float: right;">3 rec 3 cr</span>  <b>Small Group Discussion</b>            Principles and practice of small group discussion; investigation and analysis of problems in group situations.  <b>Prerequisites:</b> ENG 01 and RDL 01 if required.  <b>Corequisite:</b> ENG 02 or ENG 10 or RDL 02 if required.</p>	<p><b>CMS 75</b> <span style="float: right;">3 rec 3 cr</span>  <b>Acting I</b>            Introduction to basic acting problems of analyzing and creating a character through improvisation, pantomime theatre games, scene practice and analysis of scenes, culminating in presentation of a one-act play outside class assignments.  <b>Corequisite:</b> ENG 02 or RDL 02 if required.</p>
<p><b>CMS 26</b> <span style="float: right;">3 rec 3 cr</span>  <b>Oral Interpretation of Literature*</b></p>	<p><b>CMS 76</b> <span style="float: right;">3 rec 3 cr</span>  <b>Acting II*</b></p>
<p><b>CMS 41</b> <span style="float: right;">3 rec 3 cr</span>  <b>The Theory of Language Development</b>            This course in the theory of language development includes study of phonological, morphological, semantic, syntactic, and pragmatic sequences and processes in speech and language acquisition as well as multicultural and multilingual language acquisition.  <b>Prerequisite:</b> CMS 11.</p>	<p><b>CMS 81</b> <span style="float: right;">6 hrs field work/wk 3 cr</span>  <b>Seminar and Independent Study in Dramatic Arts with Field Projects</b>            Elective for students who wish to work independently in some area of dramatic art. Independent work on an acceptable creative project with faculty supervision.  <b>Prerequisite:</b> Permission of instructor.</p>
<p><b>CMS 42</b> <span style="float: right;">3 rec 3 cr</span>  <b>The Anatomy and Physiology of the Speech Mechanism</b>            This course in the anatomy and physiology of the speech mechanism includes study of the anatomy and physiology of respiration, phonation, articulation, hearing, a discussion of speech acoustics and an introduction to the nervous system.  <b>Prerequisite:</b> CMS 11.</p>	<p><b>CMT 10</b> <span style="float: right;">3 rec 3 cr</span>  <b>Introduction to Television Technology</b>            Provides students with a context and framework for the field of television technology. Technical aspects of media, especially television, are explored as they relate to the technician's role of equipment operator and production assistant.  <b>Prerequisites:</b> ENG 01 and RDL 01.  <b>Corequisites:</b> ENG 02 or RDL 02.</p>
<p><b>CMS 60</b> <span style="float: right;">3 rec 3 cr</span>  <b>Introduction to Mass Communication</b>            Survey of mass communication media, including radio, television, film, and print (press); the development, characteristics and uses of the media and their effects on the individual and the environment.  <b>Prerequisite:</b> CMS 11.</p>	<p><b>CMT 12</b> <span style="float: right;">3 rec 3 cr</span>  <b>Small Studio Color Television</b>            Theory and practice of typical studio color television systems, including camera operation, switching and other control systems, lighting, tape formats and recorders, and basic editing. Emphasis on production techniques (staging and setting, etc.) commonly used in institutional video and cable operations.  <b>Prerequisite:</b> CMT 10.</p>
<p><b>CMS 61</b> <span style="float: right;">3 rec 3 cr</span>  <b>History and Theory of Film</b>            An appreciation of the creation of film and the vocabulary of filmmaking. Close analysis of selected films from the beginning to the present with an eye toward the techniques of directing, editing, cinematography, lighting and sound. One movie a week viewed.  <b>Prerequisites:</b> ENG 01 and RDL 01 if required.  <b>Corequisite:</b> ENG 02 or ENG10 or RDL 02 if required.</p>	<p><b>CMT 14</b> <span style="float: right;">2 rec 2 lab 3 cr</span>  <b>Digital Video Effects and Presentational Graphics</b>            Familiarizes students with 2D and 3D digital video effects and the process of creating complex moving digitized images and animations as they relate to the video medium. In depth training in current software and operation of presentational graphics systems used in corporate communications.  <b>Prerequisite:</b> CMT 10.</p>

**CMT 23** 2 rec 2 lab 3 cr  
**Field Television Production**

Basic principles of operation of field television equipment such as field cameras, portable videocassette recorders, component systems, audio systems, portable lights, battery systems. Practice in field production techniques and the relationship of field production to post production.

**Prerequisite:** CMT 12.

**CMT 31** 3 rec 3 cr  
**Sound Recording and Editing**

Theory and practical hands-on experience in all phases of sound recording and editing as they apply to the production and post-production of sound creation and design for television, radio, film, music production and the web.

**Prerequisite:** CMT 10.

**CMT 33** 2 rec 2 lab 3 cr  
**Video Editing I**

Provides theoretical and practical experience in video editing and post-production. Fundamental editing principles, aesthetics and styles will form the basis of hands-on exercises utilizing linear and non-linear editing systems.

**Corequisite:** CMT 12.

**CMT 35** 2 rec 2 lab 3 cr  
**Video Editing II**

Provides theoretical and practical experience working with an industry-standard non-linear editing system. Skills developed include digitizing, editing, trimming and audio mixing, plus some basic principles of media management and system maintenance.

**Prerequisite:** CMT 33.

**CMT 51** Min of 140 hrs/sem 3 cr  
**Media Internship**

The internship places a student in media facilities of a corporation, educational institution, hospital, government agency, private production house or any other setting providing meaningful, supervised on-the-job training in media production and operation. Students will be periodically evaluated by the job supervisor and Media Technology faculty. Upon completion of internship, the student is required to write a summary and critical analysis of the experience. Note: Employers usually expect a commitment of 15 or more hours a week. Students interested in a media project should take CMT 53, Media Projects Labs. Explanation: To acquire an internship that begins at the start of the semester, students need a current resume. Department permission is required to avoid having students who have a GPA under 2.0 take an internship.

**Prerequisites:** Minimum of 45 curriculum credits, including ART 71, CMT 33, a completed resumé and departmental permission.

**CMT 53** Min of 140 hrs/sem 3 cr  
**Media Projects Lab**

Students utilize knowledge and skills accumulated in the prerequisites to produce a meaningful, complete media project in one or a combination of principle media formats studied in the curriculum, including scripting, storyboarding and standard production processes. Completed project should be suitable for display in a job portfolio. All production materials are to be paid by the students. Explanation: Even though the A.A.S. in Media Technology is a terminal degree, some students go on to a four-year college that requires a production reel. CMT 53,

Media Projects Lab, will enable students, under the guidance of professionals, to create either a reel or film/video suitable for use as a portfolio.

**Prerequisite:** Minimum of 45 curriculum credits, including ART 71, CMT 33 and department permission.

\*Not offered on a regular basis. Course descriptions available upon request.

**COMPUTER LITERACY**

*Business and Information Systems Department*

**CPL 11** 2 lab 1 cr  
**Computer Literacy**

Introduction to computer fundamentals for academic and professional use. Students will be introduced to the operational components of computers such as hardware, software, and use of the Windows Operating System. Students will receive hands-on experience using popular software and E-mail as well as acquire basic Internet skills necessary for research and term paper preparation. Ethical issues in computing will also be addressed. **This course is open only to non-business majors.**

**Prerequisite:** ENG 01 or RDL 01 if required.

**COMPUTER SCIENCE**

*Department of Mathematics and Computer Science*

**CSI 30** 3 rec 3 cr  
**Discrete Mathematics I**

Introduction to mathematical methods in computer science. Topics include basic concepts of mathematical logic, set theory, elementary number theory, counting methods and probability, and informal proof.

**Prerequisites:** MTH 06

**Corequisite:** ENG 02 and RDL 02 if required.

**CSI 31** 2 lect 2 lab 3 cr  
**Introduction to Computer Programming I**

Introduction to computer systems and computer logic; techniques of structured programming; data representation; basic algorithm design and implementation in a modern structured language (e.g., C++); computer solutions to problems taken from engineering, science, physics, mathematics, business and other applications.

**Prerequisite:** CSI 30 and ENG 02 and RDL 02 if required.

**Corequisite:** MTH 31 or 14.

**CSI 32** 2 rec 2 lab 3 cr  
**Introduction to Computer Programming II**

Continuation of CSI 31. Introduction to object-oriented programming including encapsulation, polymorphism, and inheritance; class templates; recursion and recursive analysis; analysis of algorithms, program style; documentation of programs; debugging; development of major projects.

**Prerequisites:** CSI 31 and ENG 02 and RDL 02 if required.

**CSI 33** 2 rec 2 lab 3 cr  
**Data Structures**

Introduction to data structures and algorithms for developing solutions to various computational problems for sorting and searching large collections of data. Topics include container classes, pointers and dynamic arrays, linked lists, stacks, queues, and trees.

**Prerequisites:** CSI 32, and ENG 02 and RDL 02 if required.

**CSI 35** **Discrete Mathematics II** **2 rec 2 lab 3 cr**

Introduction to the theory and application of abstract mathematical structures, the design and analysis of algorithms modeling of mathematics and other disciplines. Topics selected from relations, partial orderings, graphs and trees, mathematical reasoning, and methods of proof.

**Prerequisites:** CSI 30, and ENG 02 and RDL 02 if required.

■ **COOPERATIVE EDUCATION**

*Department of Student Development*

**CWE 31** **Cooperative Work Experience I** **1 rec 2 cr**

Under the supervision of the Career Development Director, students are placed in internships designed to provide them with supervised work experience in their respective majors. Students must have approval from their respective academic departments to enroll in the CWE course. Students enrolled in the CWE course must also complete 210 internship hours as part of their grades for the CWE course. All interns are expected to fulfill the requirements of their CWE instructors and approved work experience supervisors.

**Prerequisite:** Fully matriculated students who have completed 30 degree credits (45 credits for Paralegal Students) with an overall G.P.A. of 2.00 or permission from their respective academic department.

■ **DATA PROCESSING**

*Business and Information Systems Department*

**DAT 10** **Computer Fundamentals and Applications** **2 rec 2 lab 3 cr**

Introduction to computers and their use in information processing. Topics include hardware and software concepts, elements of system analysis, system design and management information systems. Emphasis on computer usage, programming skills and use of application programs involving word processing, spreadsheets, and data base management.

**Corequisites:** RDL 02 or ENG 02 if required; MTH 03 or MTH 05.



**DAT 30** **Introduction to Computer Fundamentals and Programming** **2 lect 2 lab 3 cr**

Introduction to data processing equipment and operation; basic elements of electronic data processing, input, processing, storage, and output; flow-charting, numbering systems and business programming applications. Introduction to BASIC language programming in both a lecture and laboratory setting.

**Corequisites:** RDL 02 or ENG 02 if required; MTH 03 or MTH 05.

**DAT 33** **Microcomputer Applications** **1 lect 2 lab 2 cr**

Provides "hands-on" experience with microcomputers through use of an integrated software system with word processing, spreadsheet analysis, database management and graphics components.

**Corequisite:** RDL 01 or ENG 01 if required.

**DAT 35** **Basic Language Programming** **2 lect 2 lab 3 cr**

BASIC is the major language utilized in microcomputer-based business applications programming, as well as PC/DOS concepts and facilities. BASIC language system commands and instructions are taught. Students learn to write programs which create sequential, indexed and direct files and to retrieve, update and replace records; BASIC functions and graphics.

**Prerequisite:** DAT 30 or department approval.

**DAT 36** **Microcomputer Spreadsheet Applications** **2 lect 2 lab 3 cr**

The lab portion involves "hands on" training to design and implement financial and other applications. Includes development of personalized menus, use of MACRO capabilities, functions, and graphics. The lecture portion involves the business use of spreadsheets. Illustrations of business uses as well as case work will be addressed.

**Prerequisite:** DAT 30 or DAT 33.

**Corequisite:** ACC 11 or departmental permission.

**DAT 38** **Microcomputer Database Applications** **2 lect 2 lab 3 cr**

The lab portion involves converting file design, simple and complex data entry, like sorting and indexing, editing and modifying databases, and report generation. The lecture portion involves the business of databases. Illustrations of business uses as well as case work will be addressed.

**Prerequisite:** DAT 30 or DAT 33 or departmental permission.

**DAT 40** **COBOL Programming** **3 lect 2 lab 3 cr**

Introduction to COBOL programming utilizing the IBM/360. Problems are assigned and students are required to flow-chart, code, debug, test, and document their solutions. Applications in accounting, inventory control, retailing, and other record-keeping operations.

**Prerequisite:** DAT 30 or permission of department.

**DAT 41** 3 lect 2 lab 3 cr  
**Assembly Language Programming**

Techniques of writing computer programs in Basic Assembly Language, a symbolic language. This includes data representation, operation codes, direct and indirect addressing, development of data files and use of macro instructions. Students are assigned several programs to demonstrate their programming ability.

**Prerequisite:** DAT 40 or PHY 61 or CSI 31 or permission of department.

**DAT 43** 3 lect 2 lab 3 cr  
**Advanced COBOL Programming**

Designed to present concepts of magnetic tape and direct access processing, and programming methods used for these devices. ANSI COBOL and programming techniques taught will be usable on almost all computers. Topics cover data definitions, data usage in mixed modes, data conversion, decimal point alignment sign control and subscripting, concepts of magnetic tape processing, sequential life updating DASD sequential file processing, DASD indexed sequential file processing, COBOL subroutines, program overlays and segmentation. Use of Report Writer feature.

**Prerequisite:** DAT 40.

**DAT 44** 2 rec 2 lab 3 cr  
**High Level Programming Language for Business**

Provides a foundation for the application of a high level programming language such as C++ in a business context. Students learn how to code and decode programs using fundamental tools of a high level programming language. Hands on experience to run and debug programs using different business applications. Designed for programming and systems majors only.

**Prerequisite:** DAT 40 or DAT 35.

**DAT 46** 2 rec 2 lab 3 cr  
**Operating Systems**

Course develops an understanding of environment in which computing takes place. It provides students with an understanding of the role of operating systems in the control of various computer systems. Students also learn to use Job Control (JCL) to interface with the system enabling the successful execution of applications programs. Skills in using system utility programs are developed.

**Prerequisite:** DAT 35.

**DAT 47** 2 lec 2 lab 3 cr  
**JAVA Programming**

An introduction to Web-based application programming, using JAVA language, which is based in C/C++, but completely object-oriented and platform-independent, to create interactive/dynamic Web pages. Students familiar with the format and syntax of a programming language will develop applets designed to be executed over the internet within WEB browsers, as well as stand-alone applications.

**Prerequisite:** DAT 44 or departmental permission.

**■ EARTH SYSTEMS AND ENVIRONMENTAL SCIENCE**

*Department of Chemistry and Chemical Technology*

**ESE 11** 2 lec 1 rec 3 lab 4 cr  
**Earth Systems Science: The Earth**

Presents the scientific method in geology and basic concepts of geology. Topics covered include materials, structures and surface features of the earth, oceans, and the processes that have produced them.

**Prerequisite:** ENG 02, RDL 02 if required.

**Corequisite:** MTH 03.

**ESE 12** 2 lec 1 rec 3 lab 4 cr  
**Earth Systems Science: The Atmosphere**

An introduction to the processes and phenomena of our atmosphere. Topics include clouds, sky color, storms, climates, Ice Ages, and the greenhouse effect. Students will also be introduced to the science of weather forecasting using the BCC weather station.

**Prerequisite:** ENG 02, RDL 02 if required.

**Corequisite:** MTH 03.

**ESE 21** 2 lec 1 rec 3 lab 4 cr  
**Earth Systems Science: The Environment**

This course provides a look at the earth system as a whole. Emphasis will be on the interrelation among biological, geological, climatological and human systems on continental and global scales. The links among these systems will be illustrated by present day processes and by the geologic record of scaled events in Earth system history. The course will include computer-based exercises and will also rely on Internet resources. Projects, papers, and presentations will be required.

**Prerequisite:** ESE 11 or ESE 12.

**■ ECONOMICS**

*Department of Social Sciences*

**ECO 11** 3 rec 3 cr  
**Microeconomics**

Nature of the market system via supply and demand; analysis of prices, costs and profits for various firms and markets. Applying economic theory to policy issues such as wage determination, discrimination, education, unionization, government intervention, rent control and employment of resources. (May be taken before or with ECO 12.)

**Corequisite:** ENG 02 or RDL 02 if required.

**ECO 12** 3 rec 3 cr  
**Macroeconomics**

Analysis of economic growth and determination of domestic output, employment, and income; examining GDP, price index, the business cycle, unemployment, and theories/effects of inflation. Exploring differences between Classical and Keynesian Economics via consumption, savings, investment, and the interest rate. Evaluating government fiscal policy and monetary policy. Studying Federal Reserve System and role of money and banking. (May be taken before or with ECO 11.)

**Corequisite:** ENG 02 or RDL 02 if required.

**ECO 15** 3 rec 3 cr  
**History of Economic Thought\***

**ECO 31** 3 rec 3 cr  
**Economics of Labor\***

**ECO 71** 3 rec 3 cr  
**Economics of Developing Areas\***

\*Not offered on a regular basis. Course descriptions available upon request.

## ■ EDUCATION

*Department of Education and Reading*

All EDU courses are knowledge and competency based, enabling students to acquire teaching abilities.

**EDU 10** 3 rec 3 cr  
**Child Study—Birth to Grade 6**

Designed to provide opportunities to analyze and apply theories and research findings to all educational aspects of development from birth through childhood; to examine multicultural, multilingual, inclusive settings and classroom management techniques; to plan educational activities for diverse populations and contrasting social and economic environments based on child study and learning theories; and to write and present a child case study. The use of technology is introduced as appropriate. Requires visits to early childhood and childhood learning settings with diverse socioeconomic populations in order to apply systematic observation techniques. The case study will be part of each student's academic portfolio.

**Prerequisites:** ENG 02 and RDL 02.

**Prerequisite or Corequisite:** PSY 11.

**EDU 12** 3 rec 3 cr  
**Contemporary Urban Education—Birth to Grade 6**

Designed to study the structure of the American public education system with special emphasis on the bilingual, multicultural and special educational aspects of contemporary urban education at early childhood and childhood levels. Course includes historical overview of public education; topics focusing on reducing the widening achievement gap among diverse urban school populations; promoting equitable educational opportunities for minorities and school populations-at-risk with an emphasis on the structure of schools; and factors that promote more effective teaching and effective schools. The use of technology is introduced as appropriate. Requires visits to early childhood and childhood classrooms with diverse socioeconomic populations, and contributions to each student's academic portfolio.

**Prerequisites:** ENG 02 and RDL 02.

**EDU 15** 3 rec 3 cr  
**Reading and Other Language Arts for the Early Childhood and Elementary Years**

Understanding how children acquire and develop reading and language skills; knowledge of language arts literature; understanding of psychological principles underlying language arts instruction; knowledge of instructional technologies for application to the elementary reading and language arts classroom.

**Prerequisite:** EDU 10.

**EDU 16** 3 rec 3 cr  
**Literacy in Early Childhood Education – Birth to Grade 2**

Designed to provide an understanding of the multiple ways young children develop language and literacy; to review the psychological principles underlying current models in literacy instruction; to plan literacy activities to engage the learner in the use of word study, comprehension and problem solving strategies; to understand the interconnection of the family and the learning environment; and to develop an awareness of the various genres and the reading interests of children. Projects related to assessment of language and literacy development are assigned. The use of technology is introduced as appropriate. Requires visits to early childhood and childhood learning environments with diverse socioeconomic populations, and contributions to each student's academic portfolio.

**Prerequisite or Corequisite:** EDU 10.

**EDU 17** 3 rec 3 cr  
**Literacy in Childhood Education – Grades 1-6**

Designed to provide an understanding of the multiple ways children develop language and literacy; to review the psychological principles underlying current models in literacy instruction; to plan literacy activities to engage the learner in the use of word study, comprehension and problem solving strategies; to understand the interconnection of the family and the learning environment; and to develop an awareness of the various genres and the reading interests of children. Projects related to assessment of language and literacy development are assigned. The use of technology is introduced as appropriate. Requires visits to early childhood and childhood learning environments with diverse socioeconomic populations, and contributions to each student's academic portfolio.

**Prerequisite or Corequisite:** EDU 10.

**EDU 18** 3 rec 3 cr  
**Literacy In a Spanish Bilingual Program**

Designed to enable students to acquire strategies and knowledge of implementing the New York State and New York City learning and performance standards in the native and English language arts and in the acquisition of a second language. Competencies: Understanding how young children acquire and develop language through literature; knowledge of psychological principles underlying current standard-based instruction in language arts and English as a second language (ESL); knowledge of ESL instructional methods and materials; ability to apply literacy skills in a literature-based program; and the ability to apply observation and analysis skills to the development of critical thinking and language development in literature. The use of technology is introduced as appropriate. Requires visits to bilingual early childhood and childhood learning environments with diverse socioeconomic populations, and contributions to each student's academic portfolio.

**Prerequisites or Corequisites:** EDU 10 and SPN 13.

**EDU 24** 3 rec 3 cr  
**Child Care Seminar I\***

Interaction among parents, staff, and children; historical and philosophical background; planning an educational program; physical environment of the classroom; instructional materials and activities; child and parent adjustment to a new school situation; handling negative child behavior.

*Required for students interested in Child Care.*

**Prerequisite or Corequisite:** EDU 10.

**EDU 25** 3 rec 3 cr  
**Child Care Seminar II\*\***

Continuation of EDU 24. Play activities; devising activities to meet children's growth needs; involving parents in the school program; planning and conducting parent conferences and meetings; working as part of a group; evaluation of own performance and of class performance; child care services and resources; and knowledge of useful references.

*Required for students interested in Child Care.*

**Prerequisite:** EDU 24.

**EDU 26** 3 rec 3 cr  
**Human Relations in Urban Schools**

Norms, values, and roles; observation of human behavior; principles that govern human change; activities that aid social and emotional growth; effective principles and practices of communication through written messages, teacher-parent conferences, telephone calls, and group presentations; handling conflict and criticism; codes of ethics; and knowledge of useful references.

**Prerequisite or Corequisite:** EDU 10.

**EDU 30** 3 rec 3 cr  
**Nature and Needs of the Handicapped\***

Legal definitions of categories of the handicapped; representative programs and approaches in teaching the handicapped; medical, psychological, and sociological factors associated with being handicapped and their educational implications; services and resources for the educational treatment of the handicapped; current issues; problems, and research regarding the handicapped.

**Prerequisite or Corequisite:** EDU 10.

**EDU 31** 3 rec 3 cr  
**Introduction to Learning Problems\*\***

Diagnostic-prescriptive teaching; learning modalities; organization and management of the learning environment; materials and procedures; evaluation of learning activities; and knowledge of useful references.

**Prerequisite:** EDU 30.

**EDU 40** 3 rec 3 cr  
**Field Work Seminar-- Birth to Grade 6**

Individual and small-group teaching experiences under professional supervision in an accredited school or agency. Periodic meetings with BCC faculty supervisor. Students must demonstrate competencies pertaining to general knowledge expected of those who completed the Education sequence; and be able to plan educational activities for culturally diverse populations and children with special needs. Students' dispositions and instructional strategies will be assessed. The use of technology is introduced as appropriate. Students will make contributions to their academic portfolio.

**Prerequisites:** EDU 10; EDU 12 or EDU 26.

**Corequisite:** All other education courses and permission of department.

\*Offered Fall Semester only.

\*\* Offered Spring Semester only.

**EDU 46** 3 rec 3 cr  
**Student Mentoring**

A field-based high school drop-out prevention course. Students enrolled are mentors paired with high school students, the protégés. The role of mentors, interpersonal skills, basic teaching-learning principles, techniques and strategies for helping protégés develop positive attitudes towards education. Minimum of two-hour weekly meeting with protege outside of class.

**Prerequisites:** Grade Point Average of 2.5 or higher; ENG 01, ENG 02, RDL 01, RDL 02, if required; permission of department.

**EDU 50** 3 rec 3 cr  
**Creativity and the Arts for the Early Childhood and Childhood Years**

Designed to provide an understanding of the relationship between the growth of creativity in young children and the major theories of child development. Emphasis on the role of imagination, play, sensorial learning, and aesthetic experiences in classroom activities. Projects related to the implementation of instructional and assessment strategies are assigned. The use of technology is introduced as appropriate. Requires visits to early childhood and childhood classrooms with diverse socioeconomic populations, and contributions to each student's academic portfolio. Other field experiences may include visits to children's museums and/or other cultural arts venues in the New York Metropolitan area.

**Prerequisite or Corequisite:** EDU 10.

**■ ELECTRICAL TECHNOLOGY**

*Department of Physics and Technology*

**ELC 11** 4 rec 3 lab 4 cr  
**DC Circuit Analysis**

Resistance: Ohm's Law, Kirchhoff's laws, networks with DC current and voltage sources, branch-current analysis, mesh and nodal analysis, superposition. Thevenin's, Norton's maximum power theorems, capacitance and inductance. Use of basic test instruments.

**Corequisite:** MTH 06.

**ELC 13** 2 lect 2 lab 3 cr  
**Computer Applications in Telecommunications**

Introductory course in basic computer orientation and implementation of hardware and software applications in telecommunications. Students use various software packages to create documents spreadsheets, graphs, databases and presentations with lectures, interactive learning and demonstrations. Laboratory exercises required.

**Corequisite:** MTH 10.

**ELC 15** 1 lect 2 lab 2 cr  
**Computer Applications in Technology**

Introductory course in basic computer orientation and implementation of hardware and software applications in technology. Students will use various software packages to create documents, spreadsheets, graphs, databases and presentations. Students will utilize this knowledge to solve problems and transfer information via electronic media. Lectures, interactive learning and demonstrations will be employed. Laboratory exercises will be required.

**Corequisite:** MTH 05.

**ELC 18** 1 lect 2 lab 2 cr  
**Computer Programming for Engineering Technology**

Introduction to computer programming using a visual programming language. The student is introduced to the concepts of application development, user interface design, program development methodology, structured programming, and object-oriented programming. Projects relevant to electrical and electronic circuits are developed to emphasize areas of problem-solving methods, modeling, data analysis and graphing, and interfacing.

**Prerequisite:** ELC 15.

**Corequisite:** MTH 06.

**ELC 21** 3 rec 3 lab 4 cr  
**AC Circuit Analysis**

Sinusoidal waveform, phasor quantities, impedance, Kirchhoff's laws, network theorems, power, frequency response of RC and RL circuits, and resonance. Laboratory hours complement class work.

**Prerequisite:** ELC 11.

**Corequisite:** MTH 13 and RDL 02 or ENG 02 if required.

**ELC 25** 3 rec 3 lab 4 cr  
**Electronics I**

Trains students in the physical principles underlying current carriers in semiconductor materials; static and dynamic characteristics of diodes and transistors; biasing methods and concepts of amplification; analysis of basic BJT and FET circuits; frequency response of one and two stage amplifiers; troubleshooting; analysis by computer simulation.

**Prerequisite:** ELC 11.

**ELC 31** 3 rec 3 lab 4 cr  
**Electrical Circuits**

Trains students in the application of Ohm's law, Kirchhoff's laws, Thevenin's and Norton's theorem, and superposition to the analysis of DC and AC passive circuits including R-L-C circuits, impedances, phase angles, resonance, and transformers.

**Corequisites:** MTH 10, ELC 13.

**ELC 35** 3 rec 3 lab 4 cr  
**Electronics II**

Designed to train students in the analysis and application of advanced electronic circuits. Topics include differential amplifiers, stage gain in decibels, input and output impedances linear IC operational amplifiers, frequency response and BODE plots, active filters, D/A and A/D circuits, oscillators and high frequency amplifiers, troubleshooting of test circuits and analysis by computer simulation.

**Prerequisites:** ELC 25.

**Corequisite:** MTH 13.

**ELC 81** 3 rec 3 lab 4 cr  
**Electronic Communications**

Generation and processing of signals, including modulation, frequency conversation; bandwidth, oscillators, and noise. Amplitude, frequency, phase modulators, demodulators, phase-locked loops transmission, digital communications, and phase-shift keying. Laboratory hours complement class work.

**Prerequisite:** ELC 35.

**Corequisites:** ELC 18, PHY 22, MTH 15.

**ELC 94** 3 rec 3 lab 4 cr  
**Laser and Fiber Optic Communications**

Trains students to understand fiber optic technology and to provide the necessary skill for handling, installing, and maintaining complete optical communication systems. Topics include principles of light and lasers, optical fiber and its properties, fiber fabrication and cable design, optical sources and the injection laser diode, photo detectors, modulation schemes for fiber optics, practical optical transmitters and receivers, installation and testing of fiber systems, troubleshooting of test circuits and analysis by computer simulation.

**Prerequisites:** PHY 22, ELC 35, ELC 81.

**Corequisite:** ELC 81.

**ELC 96** 3 lect/rec 3 lab 4 cr  
**Digital Electronics**

Prepares students in digital electronics with topics related to number systems and codes, logic functions, and Boolean algebra. IC building blocks are used in applications ranging from logic gates to flip-flops, counters, registers and arithmetic circuits. Algebraic reduction and mapping are used to minimize Boolean expressions and combinational logic circuits. Computer simulations of digital circuits will be used to verify actual hardware setups.

**Prerequisite:** ELC 11.

**ELC 97** 3 lect/rec 3 lab 4 cr  
**Microprocessor System Design**

Classification and examination of various types of microprocessor structures, different types of memories, input-output and interface devices and their applications. Interrupt techniques and their applications are also investigated. Laboratory hands-on work using various programming and firmware techniques, and interfacing of analog and digital circuits.

**Prerequisites:** ELC 18, ELC 96.

## ENGLISH

*Department of English*

All courses offered by the English Department include composition. In courses providing a fourth conf/rec hour, the teacher will use the fourth hour for instructional purposes.

The CUNY/ACT Basic Skills Tests in Writing and Reading are required before registering for an English course.

A student may not register for ENG 11 unless he or she has passed both the CUNY/ACT Writing and the CUNY/ACT Reading Skills Assessment Tests.

A student who has completed the semester's work but has failed the same noncredit course (e.g. ENG 01 or 02) twice, may choose not to take the same course **a third time**. The student may choose to report to the Department of English Office so that he or she may be placed in a rigorous tutorial program.

**ENG 01** 4 rec 0 cr  
**Developmental Writing I**

Extensive writing practice in response to readings. Review and practice of basic principles of grammar and usage, with emphasis on sentence structure and various mechanical aspects of writing. Focus on writing problems such as sentence fragments, sentence misconstruction, lack of subject-verb agreement, faulty use of pronouns, misspellings, and inaccuracy in punctuation. Helps students write effective paragraphs and essays.

*For students with a combined score of 5 or less on CUNY/ACT Writings Skills Assessment Test.*

**ENG 02** 4 rec 0 cr  
**Developmental Writing II**

Extensive writing practice in response to readings, with emphasis on paragraph development and unity. Students learn to develop paragraphs through styles such as narration, illustration, comparison-contrast, process, cause and effect, and argumentation. Helps the student to write effective paragraphs/essays in preparation for ENG 11. Includes review of grammar and usage.

**Prerequisite:** ENG 01, if required, and for students with a combined score of 6 on the CUNY/ACT Writing Skills Assessment Test.

**ENG 09** 4 rec 0 cr  
**Writers' Workshop for ESL Students**

Intensive review and practice of English. Development of increased proficiency in academic writing; paragraph and essay structure and grammar. In-depth reading program to enhance vocabulary and comprehension skills.

**Prerequisite:** ESL 03, or placement on the ENG 09 level. Successful completion of this course is equivalent to successful completion of ENG 01.

**ENG 10** 5 rec 1 conf/rec 3 cr  
**Written Composition and Skills**

A review of ENG 02 material emphasizing paragraph development and unity. Emphasis on argumentation, cause and effect, and other rhetorical modes to prepare students for the ENG 11 component; practice in expository writing and non-fiction reading, and preparation for a library research project utilizing the rudiments of documentation.

**Prerequisite:** Combined score of 6 on the CUNY/ACT Writing Skills Assessment Test **and** a passing score on the CUNY/ACT Reading Skills Assessment Test; or with Chairperson's permission.

Successful completion of this course is equivalent to successful completion of ENG 11.

**ENG 11** 3 rec 1 conf/rec 3 cr  
**Fundamentals of Written Composition I**

Fundamental principles of organization and grammar; practice in expository writing; selected readings, mainly non-fiction; approximately eight papers required; one research project using library resources and the rudiments of documentation.

**Prerequisite:** A passing score on the CUNY/ACT Writing Skills Assessment Test **and** a passing score on the CUNY/ACT Reading Skills Assessment Test.

---

ENG 11 is a prerequisite for all subsequent English courses.

---

**ENG 12** 3 rec 1 conf/rec 3 cr  
**Fundamentals of Written Composition II**

Continued study and application of the principles of organization and rhetoric; expository writing based on non-fiction readings; development of critical thinking. Research paper required.

**Prerequisite:** ENG 11. It is highly recommended that Liberal Arts students take ENG 12 before any other English elective.

**ENG 14** 3 rec 1 conf/rec 3 cr  
**Written Composition and Prose Fiction**

Continued emphasis on the writing of clear, effective expository prose based on readings in short stories and novels. Research paper required.

**Prerequisite:** ENG 11.

**ENG 15** 3 rec 1 conf/rec 3 cr  
**Written Composition and Drama**

Continued emphasis on the writing of clear, effective expository prose based on readings in world drama. Research paper required.

**Prerequisite:** ENG 11.

**ENG 16** 3 rec 1 conf/rec 3 cr  
**Written Composition and Poetry**

Continued emphasis on the writing of clear, effective expository prose based on readings in poetry. Research paper required.

**Prerequisite:** ENG 11.

**ENG 23** 3 rec 1 lab/rec 3 cr  
**Scientific and Technical Writing**

Study and practice of various types of writing in scientific, business and technological disciplines, including abstracts, progress reports, description of a process, technical proposals, technical reports and business documents such as memoranda, letters, and resumes. Course includes one laboratory hour of instruction in business and technical software applications. (*Liberal Arts students must have written permission of Department Chairperson.*)

**Prerequisite:** ENG 11.

**ENG 53** 3 rec 3 cr  
**The Black Writer in American Literature\*****ENG 54** 3 rec 1 conf/rec 3 cr  
**Black Poetry\*****ENG 56** 3 rec 3 cr  
**Children's Literature**

Discussions and lectures on history, development, and critical evaluation of children's literature (including works from other cultures in translation). Children's literature will be considered through multiple critical approaches, including gender, cultural and psychological criticism. One research project as well as other written work will be required, including the opportunity to write a work for children.

**Prerequisite:** ENG 11.

**ENG 61** 3 rec 3 cr  
**Shakespeare**

Introduction to plays of Shakespeare. Representative tragedies, comedies, and histories are read and analyzed. Poetic and dramatic techniques and the Elizabethan theatre are studied. Critical or research paper required.

**Prerequisite:** ENG 11 (and ENG 12 where required) and ENG 14 and/or 15.

**ENG 65** 3 cr  
**Honors Elective: Independent Research**

To involve the intellectually aware, creative student in the in-depth analysis of some phase of English through independent research. Each student will work closely with the instructor, receiving guidance in research techniques, organizing bibliography in the specific area, and preparing drafts of the honors paper.

**Prerequisite:** B or higher average in several previous English courses taken at BCC and the written approval of a full-time instructor in the English Department and the chairperson.

\*Not offered on a regular basis. Course descriptions available upon request.

**ENG 72** 3 rec 3 cr  
**The Bible as Literature**

Study of the prime Biblical narratives as well as chief poetic and wisdom sections of both Old and New Testaments, including the Apocrypha. Biblical texts to be read in English. Students write short themes on both texts and their scholarly critiques on these texts.

**Prerequisite:** ENG 11.

**ENGLISH AS A SECOND LANGUAGE**

*Department of English*

**ESL 01** 8 rec 0 cr  
**English as a Second Language — Basic**

For students whose native language is not English. Intensive program for beginning level students for development of English language skills. Builds oral and written control of basic grammatical structures, and listening and reading comprehension.

**ESL 02** 6 rec 0 cr  
**English as a Second Language — Intermediate**

For students whose native language is not English. Builds oral control of grammatical structures, listening comprehension, and the ability to write grammatically acceptable, well-constructed paragraphs and short essays.

**Prerequisite:** ESL 01 if required, or placement on the ESL 02 level.

**ESL 03** 6 rec 0 cr  
**English as a Second Language—Advanced**

For students whose native language is not English. Builds control of advanced grammatical structures and develops ability to write various forms of expository compositions.

**Prerequisite:** ESL 02 if required, or placement on the ESL 03 level.

**ENVIRONMENTAL TECHNOLOGY**

*Department of Chemistry and Chemical Technology*

**ENV 11** 2 lect 1 rec 3 lab 4 cr  
**Introduction to Environmental Health**

This course provides a basic understanding of widespread health problems that are linked to environmental and occupational health hazards. Students become familiar with the identity and sources of air and water pollutants, the routes of entry of these pollutants into the body and the harmful effects of these pollutants. Laboratory exercises familiarize students with methods of air, soil and water analysis. Field trips provide first-hand knowledge of public health, occupational health and safety issues.

**Prerequisites:** RDL 02, ENG 02, ESL 03 if required.

**ENV 12** 3 lect 3 cr  
**Environmental and Occupational Regulations**

Focuses on local, state, regional, federal, and international laws and regulations pertaining to environmental and occupational health and safety. Issues of compliance, violation and penalties are discussed and reviewed.

**Prerequisite:** ENV 11.

**ENV 21** 1 lect 8 field study 3 cr  
**Field Study in the Environment**

The course teaches students how to become field technicians which enables them to conduct site evaluations, on-site sampling and site remediation in compliance with EPA regulations. Students are also trained in health and safety procedures for hazardous waste operations.

**Prerequisites:** ENV 11, ENV 12.

**ENV 22** 2 lect 4 lab 4 cr  
**Environmental Methods of Analysis**

This course includes lectures demonstrations, hands-on laboratory experiments with the equipment and instruments commonly used for air, soil and water analysis to determine levels of pollution.

**Prerequisites:** CHM 18, ENV 11.

**ENV 23** 3 lect 3 cr  
**Environmental and Occupational Toxicology**

Introduction to principles of toxicology with emphasis on environmental and occupational health. Provides necessary background to understand the health effect of toxic waste and environmental pollutants.

**Prerequisites:** BIO 12, CHM 18, ENV 11.

**ENV 24** 3 lect 12 internship 3 cr  
**Environmental Internship**

Weekly seminar that integrates the fieldwork experience of students doing a supervised internship at various public and private environmental agencies, industrial companies and water treatment/waste management plants.

**Prerequisites:** ENV 11, ENV 12, ENV 21 and permission of Environmental Technology Program Administration.

**FINANCE**

*Business and Information Systems Department*

**FIN 31** 3 rec 3 cr  
**Principles of Finance**

American financial system; public and private financial institutions; financial problems of industrial and commercial firms. Procedures of business, foreign trade, and consumer financing; governmental policies and their effects on economic activities.

**Corequisite:** ENG 02 or RDL 02 if required.

**FIN 33** 3 rec 3 cr  
**Grant-Writing and Fundraising**

Introduction to the various states of grantsmanship, from initial research to submission of final proposal. How to prepare a budget; how much money to request; what sources are available from foundations, corporations or government; and a variety of fundraising techniques.

**Prerequisite:** ENG 11.

**FLORISTRY**

*Department of Biology and Medical Laboratory Technology*

Enrollment in Floristry is limited to students in the Ornamental Horticulture curriculum with special permission of the department. Offered at the New York Botanical Garden. See curriculum advisor, Dr. Annette Opler.

**■ FRENCH***Department of Modern Languages***FRN 11** 4 rec 4 cr  
**Beginning French I**

A conversation course that will enable the student to understand, read, write and speak simple everyday French. Audio laboratory practice.

**FRN 12** 4 rec 4 cr  
**Beginning French II**

Continuation of FRN 11

**Prerequisite:** FRN 11 or placement test.

**FRN 13** 4 rec 4 cr  
**Intermediate French**

Continuation of FRN 12.

**Prerequisite:** FRN 12 or placement test.

**FRN 21** 4 rec 4 cr  
**Language and Civilization of France\***

\*Not offered on a regular basis. Course description available upon request.

**■ GARDENING***Department of Biology and Medical Laboratory Technology*

Enrollment in Gardening is limited to students in the Ornamental Horticulture curriculum or with special permission of the department. Offered at the New York Botanical Garden. See curriculum advisor, Dr. Annette Opler.

**■ GEOGRAPHY***Department of History***GEO 10** 3 rec 3 cr  
**Introduction to Human Geography**

Introduces key geographical concepts, both cultural and physical. Considers how such geographic factors as location, landforms, climate, soil, and natural resources have shaped cultures and civilizations, and the role played by people in gradually altering their environments. Audiovisual materials such as maps, photographs, slides, and films are used extensively.

**Corequisite:** RDL 01 or ENG 01 if required.

**GEO 20** 3 rec 3 cr  
**The Americas: Cultures in Comparison and Contrast**

Survey of the cultural landscape of the Americas, meeting place for the cultures of five continents. Representative examples of Amerindian, African, Asian and European cultural patterns in the context of their geographical settings.

**Corequisites:** ENG 02 or RDL 02, if required.

**■ HEALTH***Department of Health, Physical Education and Wellness***HLT 61** 3 cr 3 rec  
**Food Safety and Sanitation Principles**

The basic principles of food sanitation and safety will be covered, including temperature controls, types of contamination, storage equipment and facilities as well as the link between personal hygiene and food-borne illnesses. The HACCP (hazard analysis critical control point) system will be taught for understanding and implementing a sanitation risk management program in any food industry.

In addition, students will study the current national and international food systems, which have created substantial food contamination problems through genetic modification, inappropriate feed and fertilization products and various transportation issues.

At the completion of this course, the student will be prepared to take the SERVESAFE examination sponsored by the Educational Foundation of the National Restaurant Association to become certified. SERVESAFE training is accepted by many food-related industries that require training in food safety.

**Corequisite:** ENG 02 or ENG 10 or RDL 02 if required.

**HLT 62** 3 cr 3 rec  
**Food Transportation**

This is a practical Food Transportation course that includes the six principles of national and international food shipping. Students gain insights about various markets and different types of transportation systems such as land, sea, and air, as well as comparisons of transporting food vs. other products. Specific food handling of oils, dairy, fruits and vegetables and meat will be included. The course covers packaging quality and problems with shipping poor products as well as the consequences of inefficient and/or inappropriate transportation operations.

**Prerequisite:** MTH 01 if required.

**Corequisite:** ENG 02 or ENG 10 or RDL 02 if required.

**HLT 91** 2 rec 2 cr  
**Critical Issues in Health**

Intended to develop and encourage critical judgment in vital areas of health: mental health, dependencies, human sexuality and nutrition.

**Corequisite:** ENG 01 or RDL 01 if required.

**HLT 92** 3 rec 3 cr  
**Drugs, Society and Human Behavior**

Various aspects of drug use and abuse are explored — pharmacological, historical, legal and psychosocial. Emphasis on the roles of the individual and society in dealing with current issues.

**Prerequisite:** HLT 91.

**HLT 93** 3 rec 3 cr  
**Human Sexuality**

Consideration of physical, sociological, and psychological aspects of human sexuality with emphasis on development of critical judgment in addressing ethical issues.

**Prerequisite:** HLT 91.

**HLT 94** 3 rec 3 cr  
**Human Nutrition**

Introduction to essentials of nutrition education and the relationship of food to the student's personal goals and life experiences. Students-as-consumers find their choices and responsibilities emphasized by classroom experiments, self-examination and experiential learning. Weight control, changing food requirements in the life cycle, special diets, food labeling, additives, food economics in relationship to health are included.

**Prerequisite:** HLT 91 and/or permission of instructor.

**HLT 96** 3 rec 3 cr  
**Health Education for Parenting**

Provides health care information as it relates to child development. Provides parents and others who work with children with resources and coping skills needed to raise a healthy child and to nurture the family unit.

**Prerequisite:** HLT 91.

**HLT 97** 1 sem 5 hrs field work 3 cr  
**Field Work in Community Health Resources**

Provides students with firsthand knowledge of the community, its health problems and the forces impacting on them. Offers an opportunity to become involved in identifying and addressing problems.

**Prerequisite:** HLT 91 and/or permission of instructor.

**HLT 98** 1 rec 2 hrs field work 3 cr  
**Community Health Resources for Child Care Workers**

Seminar in community health resources for child care workers. Students use their job placement as field work experience and keep weekly logs.

**HLT 99** 2 rec 2 cr  
**Health of the Nation**

Provides an examination of the health status of different populations in the United States. Concepts of epidemiology, health promotion and disease prevention are discussed. The characteristics of special populations are addressed as are some of the major threats to the health, safety and welfare of individuals in society.

**Corequisite:** ENG 01 or RDL 01.

**HEALTH CARE MANAGEMENT**

*Business and Information Systems Department*

**HCM 11** 3 rec 3 cr  
**The U.S. Health Care Delivery System**

Examines key issues about the organization and delivery of health and nutrition services. Explores the role of health care professions and occupations, the structure and function of the U.S. health services delivery system, and applications of technology and financial resources.

**HCM 12** 3 rec 3 cr  
**Hospital Organization and Management**

Overview of management and organization theory with applications to health care settings. Examines conceptual, technical, and human skills as they relate to the management of complex health care institutions.

**Prerequisites or corequisites:** BUS 51, HCM 11 and satisfactory completion of 30 credits.

**HISTORY**

*Department of History*

**HIS 10** 3 rec 3 cr  
**History of the Modern World**

Exploration of outstanding political, intellectual, philosophical, social and economic trends, movements and events from mid-18th century to present. Analysis of forces that have shaped the modern world.

**Corequisite:** RDL 02 or ENG 02 if required.

**HIS 11** 4 rec 3 cr  
**Introduction to the Modern World**

This course is identical in academic content and in assessment criteria to HIS 10, History of the Modern World, but adds a fourth compensatory hour to allow the instructor to work closely with students to assist them in developing a conceptual framework, effective note-taking techniques and written self-expression. Additional exercises and assignments will be used to consolidate knowledge and learning skills. This course will be opened only to students in ENG 01 and RDL 01. Class size will be limited to 30.

**Corequisite:** ENG 01 or ENG 09 or RDL 01.

Either HIS 10 or 11 – identical courses in different formats – is a prerequisite for all history courses.

**HIS 13** 3 rec 3 cr  
**History of the Ancient World**

Four major River Valley civilizations—Egypt, Mesopotamia, India, China; examination of the florescence and decline of Greek and Roman civilizations. Focus on significant achievements of each people, assessing their impact on contemporary cultures as well as their legacy to ours. Readings from religious texts, poetry, drama and philosophy.

**Prerequisite:** HIS 10 or 11.

**HIS 14** 3 rec 3 cr  
**Medieval History**

Effects of major ideas, social and economic changes, political concepts and their impacts upon the society of the West during the Middle Ages. Emphasis on interaction of these aspects within the cultural context of medieval Europe.

**Prerequisite:** HIS 10 or 11.

**HIS 15** 3 rec 3 cr  
**Intellectual and Social History of Modern Europe**

Effects of major ideas in Western society from the 18th century in their political and cultural context. The revolutionary dynamic in democracy, romanticism and conservatism, changing situation of religion, role of women in modern society, socialism in 19th and communism in 20th centuries, interaction between philosophy and politics extending from idealism to existentialism, class conflict and social stability, racism and egalitarianism, scientism and irrationalism.

**Prerequisite:** HIS 10 or 11.

**HIS 20** 3 rec 3 cr  
**The American Nation: The Political & Social Development of a People**

Selected topics in American History raising issues related to values, ethics and morality. Ranging from the colonial period to the contemporary era, this course examines major concerns of the American people throughout their history and illustrates how ethical concerns persist throughout American History.

**Prerequisite:** HIS 10 or 11.

**HIS 23** 3 rec 3 cr  
**Social and Intellectual History of Modern America**

Fundamental concepts of the American experience that permeate our lives today, including puritanism, class consciousness, prejudice, violence, feminism, pragmatism.

**Prerequisite:** HIS 10 or 11.

**HIS 24** 3 rec 3 cr  
**The History of American Foreign Relations**

Major developments in the foreign relations of the U.S., from the American Revolution to Vietnam, and their domestic and international effects. Emphasis on the policies of this century; evolution of the republic into a world power and the consequent tensions and crises. Origins and progress of efforts at international cooperation and peace.

**Prerequisite:** HIS 10 or 11.

**HIS 25** 3 rec 3 cr  
**The Third World and the West: History of Modern Imperialism and Colonialism**

Survey of the world scene since 1870, especially in the building of colonial empires in Africa, Asia and Latin America; the rivalries among the imperialist powers; the relationship of imperialism to World Wars I and II; the decline of colonialism; the rise of Soviet and Communist Chinese imperialism.

**Prerequisite:** HIS 10 or 11.

**HIS 27** 3 rec 3 cr  
**Modern History of the Far East**

China, Japan and Korea in the modern period; political and cultural institutions; structure of oriental societies; advances of the West and the effect of imperialism; industrialism, agrarian reforms; Communism; problems of the post-World War II period.

**Prerequisite:** HIS 10 or 11.

**HIS 28** 3 rec 3 cr  
**Women: The Historical Perspective**

The changing status of, and attitudes towards women from antiquity to 21st century America. A variety of historical materials are used to assess how women themselves and the image of women have changed. Analysis in historical perspective of feminine achievement and the dynamics of undertakings yet ahead.

**Prerequisite:** HIS 10 or 11.

**HIS 31** 3 rec 3 cr  
**Modern Latin American History**

Historical development of the Latin American area through the 19th and 21st centuries.

**Prerequisite:** HIS 10 or 11.

**HIS 35** 3 rec 3 cr  
**History of Africa**

Multidiscipline approach to the history of Africa; ancient and medieval African societies, era of slavery, geographic discovery, missionary contact, imperialism and emergence of modern nationalism; the era of independence.

**Prerequisite:** HIS 10 or 11.

**HIS 37** 3 rec 3 cr  
**African-American History**

The African experience; development and abolition of slavery in America, reconstruction after Civil War; migration out of the South; manifold consequences of urban relocation; Black education, church and arts; writing of Black Americans including Frederick Douglass and Franklin Frazier.

**Prerequisite:** HIS 10 or 11.

**HIS 39** 3 rec 3 cr  
**History of the Caribbean**

Political, economic, social and cultural history of Puerto Rico, Cuba, Dominican Republic and Haiti from Spanish discovery to present. Emphasis on Puerto Rican contributions to culture and society of the Caribbean area and the United States.

**Prerequisite:** HIS 10 or 11.

**HIS 51** 3 rec 3 cr  
**History of the City of New York**

Political, economic and social history of New York City from its Dutch origins to the present; consideration of the City's crucial role in creating modern urban America.

**Prerequisite:** HIS 10 or 11.

**■ HORTICULTURE**

*Department of Biology and Medical  
Laboratory Technology*

Enrollment in Horticulture is limited to students in the Ornamental Horticulture curriculum or with special permission of the department. Offered at the New York Botanical Garden. See curriculum advisor, Dr. Annette Opler.

**■ HUMAN SERVICES**

*Department of Social Sciences*

**HSC 10** 3 rec 3 cr  
**Human Services and Social Welfare Institutions**

Introduces the student to the foundations and influences of social welfare policy and the human services movement. Social welfare institutions and societal response to human needs will be examined. The course will discuss the influences of political, social and cultural factors upon past and present approaches to meeting the needs of individuals, families, groups, and communities.

**Corequisites:** ENG 02 or RDL 02 if required, and PSY11 or SOC 11.

**HSC 11** 3 rec 3 cr  
**Introduction to Case Management**

Addresses the complex situation of children and adolescents who require long-term assistance and whose needs fall along a continuum of care. Objective is to facilitate and ensure the effective delivery of service by improving the 'fit' between client capacity and demands of the environment. Includes focus on crisis intervention with regard to child abuse, family violence, substance abuse, HIV and AIDS and teenage pregnancy.

**Prerequisite:** HSC 10, PSY 11, SOC 11.

**HSC 91** 2 rec 14 hrs field work 3 cr  
Field Work and Seminar in Human Services I

**HSC 92** 2 rec 14 hrs field work 3 cr  
Field Work and Seminar in Human Services II

Supervised field work at a community social agency to provide practical human service skill development in the diagnosis, treatment and evaluation of individual, family, group and institutional problems. Weekly seminars to assure that skills and values are being appropriately integrated.

**Prerequisite for HSC 91:** PSY 11, SOC 11, HSC 10 and permission of department; **for HSC 92:** HSC 91 and permission of department.

**HSC 93** 1 rec 2 hrs field work 1.5 cr  
Issues in Human Services for Child Care Workers I

**HSC 94** 1 rec 2 hrs field work 1.5 cr  
Issues in Human Services for Child Care Workers II

Weekly seminar that integrates the field work experience of students doing field work in state-approved child care social/health agencies with the academic study of Child and Adolescent Developmental problems. This seminar assures that skills and values are being appropriately integrated.

**Prerequisites:** HSC 10, PSY 11, SOC 11 and permission of department.

## ■ INDEPENDENT STUDIES\*

Office of Academic Affairs

**IND 11, 12, 13; 21, 22, 23; 31, 32, 33** 1-3 cr  
Independent Study in a Specific Discipline

For students who wish to pursue a problem of special interest. Students will devise projects that transcend traditional departmental offerings. Activities to be pursued and outside involvements, if any, are arranged in cooperation with the coordinator. Reports or other evaluative instruments required. For elective credit only. Maximum of 6 credits may be earned in Independent or Interdisciplinary Study or combination of both.

**Prerequisites:** ENG 11, the successful completion of 30 college credits with a general cumulative index of 2.0 and 3.0 within the discipline or permission of the department chairperson.

**INT 11, 12, 13; 21, 22, 23; 32, 33** 1-3 cr  
Interdisciplinary Independent Study

Designed for students who wish to participate in an interdisciplinary project of their own planning. Supervised projects and studies combine subject areas. Students arrange their own activities or agency involvements with course coordinator. Students are allowed maximum of 6 credits in either Independent or Interdisciplinary Study or a combination of both. (30 hours of work - 1 credit). For elective credits only.

**Prerequisite:** ENG 11, the successful completion of 30 college credits with cumulative index of 2.0, and permission of the department chairperson.

\* Course number for IND and INT: first number indicates number of times a student has enrolled in the course; second number indicates credit weight. Example: number 13 means the student has enrolled for the first time and is earning three credits.

## ■ INTERIOR LANDSCAPING

Department of Biology and Medical  
Laboratory Technology

Enrollment in Interior Landscaping is limited to students in the Ornamental Horticulture curriculum or with special permission of the department. Offered at the New York Botanical Garden. See curriculum advisor, Dr. Annette Opler.

## ■ ITALIAN

Department of Modern Languages

**ITL 11** 4 rec 4 cr  
Beginning Italian I

Pronunciation; language structure; conversation; reading of simple texts; dictation. Audio laboratory practice.

**ITL 12** 4 rec 4 cr  
Beginning Italian II

Continuation of ITL 11. Language structure; reading of elementary literary texts; dictation.

**Prerequisite:** ITL 11 or placement test.

**ITL 13** 4 rec 4 cr  
Intermediate Italian

Advanced language structures; conversation reading; translation and discussion of modern texts; composition.

**Prerequisite:** ITL 12 or placement test.

## ■ KEYBOARDING

Business and Information Systems Department

**KEY 10** 2 rec 1 cr  
Keyboarding for Computers

Keyboarding course for **non-secretarial** majors. Students develop an alphabetic, number, and symbol touch keyboarding skill which applies to keyboard inputting. Microcomputer terminals are used to reinforce each keyboarding operational function. Minimum speed standard is 20 words per minute.

**KEY 11** 5 rec 2 cr  
Keyboarding I

Development of basic skills in the use of the typewriter. Letters, tabulations and reports are produced. Average speed of 35 words a minute.

**KEY 12** 4 rec 2 cr  
Keyboarding II

Development of speed and control. Advanced letter, memorandum, manuscript, and tabulation production. Average speed of 45 words per minute.

**Prerequisite:** KEY 11 or department permission.

**Corequisites:** ENG 02 or RDL 02 if required; WPR 21 or department permission.

**KEY 13** 4 rec 2 cr  
Keyboarding III

Keyboarding skill at the expert level according to office standards. Emphasis on operation of electronic keyboarding equipment and application to office projects. Average speed of 55 words per minute.

**Prerequisites:** KEY 12, WPR 21.

**Corequisites:** ENG 11, WPR 22.

## ■ LANDSCAPE DESIGN

Department of Biology and Medical  
Laboratory Technology

Enrollment in Landscape Design is limited to students in the Ornamental Horticulture curriculum or with special permission of the department. Offered at the New York Botanical Garden. See curriculum advisor, Dr. Annette Opler.

## ■ LANGUAGE

*Department of Modern Languages*

### LAN 15 4 rec 3 cr Comparative Grammar for Native Spanish Speakers

An introductory program for beginning ESL students covering basic similarities and differences between Spanish and English. The course strengthens student's knowledge of Spanish as an aid in learning English.

**Prerequisite:** Registration only by department or placement.

## ■ LAW

*Business and Information Systems Department*

### LAW 16 1 rec 1 cr Survey of the Law and Paralegal Studies

Comprehensive survey of the law and all courses in the Paralegal Studies curriculum. Topics cover the legal profession, its ethical problems; the role of paralegal; and career goals and employment opportunities for paralegals.

### LAW 17 3 rec 3 cr Introduction to Paralegal Studies

Introduces students to the legal system as it operates in the State of New York, the legal process, and certain basic areas of the law (torts, contracts, property). Roles of the lawyer and paralegal within the legal system especially as they relate to the unauthorized practice of law, fiduciary relationships, and ethical considerations. Students become familiar with specific paralegal skills. They practice and perfect such skills as interviewing techniques, factual investigation and formal and informal advocacy.

**Corequisite:** ENG 02 or RDL 02 if required.

### LAW 19 3 rec 3 cr Introduction to Law Office Management and Computers

Survey of principal areas of law office management, docket control, calendar monitoring, bookkeeping/accounting systems, functions of the law library and computers in the law office. Students gain understanding of computers, operating systems and programming in the modern law office; overview of other computer applicators for lawyers and paralegals; computer law, hardware and software tailored for law office applications.

**Corequisite:** RDL 02 or ENG 02 if required.

### LAW 41 3 rec 3 cr Business Law

Survey of the legal and economic environment of business, and interrelationship and impact of ethical, social and political influences on individuals and organizations in the study of agency, antitrust, bankruptcy, constitutional, consumer, contract, criminal, and labor laws, and the federal and state court systems.

**Corequisite:** ENG 02 or RDL 02 if required.

### LAW 45 3 rec 3 cr Medical Law

Law as it affects work of medical secretarial assistants and paralegals including medical practice acts, legal relationship of physician and patient, professional liability, types of medical practice; preparation of reports for workers' compensation, court litigation.

**Corequisite:** ENG 02 or RDL 02 if required.

### LAW 47 3 rec 3 cr Civil Procedure

Common, statutory and constitutional law; the judicial system; proceedings, civil and criminal, from initiation to enforcement and judgment.

**Corequisites:** ENG 02 or RDL 02 if required; LAW 17.

### LAW 52 3 rec 3 cr Business Organizations

Introduction to law relating to business organizations: agency; sole proprietorships, partnerships; corporations; government regulation; drafting and research practice; functions of the lawyers and paralegal assistant.

**Corequisite:** ENG 02 or RDL 02 if required.

### LAW 62 3 rec 3 cr Family Law

Focus on legal aspects of marriage, custody and visitation, economic and social aspects of divorce, separation, annulment, antinuptial agreements, contractual relations among members of the family, family court procedures, criminal jurisdiction over minors; drafting and research practice; functions of the lawyer and paralegal assistant. Aspects of criminal, statutory and constitutional law as it affects the juvenile offender.

**Corequisite:** ENG 02 or RDL 02 if required.

### LAW 63 3 rec 3 cr Law for Security Personnel

A study of the legal problems in the private security sector. Included is a review of the powers and restrictions on "private police," e.g. arrest, search and seizure, eavesdropping, and a comparison with the powers of law enforcement agencies. Civil liabilities of private security personnel are studied as well as aspects of civil law. Licensing statutes are also analyzed.

**Prerequisite:** ENG 02 or RDL 02 if required.

### LAW 64 3 rec 3 cr Constitutional Law

This course provides an analysis of the historical development of Constitutional Criminal Procedure. The effect of the due process clause of the Fourteenth Amendment is examined through a study of the leading Supreme Court decisions relating to Criminal Justice. Special attention is placed upon the Fourteenth Amendment's use to apply the Bill of Right to the States.

**Prerequisite:** ENG 02 or RDL 02 if required.

**Pre/corequisite:** POL 11.

### LAW 65 3 rec 3 cr Criminal Law and Procedures

Provides understanding of basic distinctions between criminal and civil law; familiarization with criminal justice system; major stages of a criminal case.

**Corequisite:** ENG 02 or RDL 02 if required.

### LAW 72 3 rec 3 cr Real Property

Law of real property and real estate transactions. Analysis of sales, obligations of the real estate broker, surveys, recordings, closings and title searches, mortgages, assignments, consolidation agreements, and mortgage foreclosures. Law of landlord and tenant are extensively reviewed.

**Corequisite:** ENG 02 or RDL 02 if required.

**LAW 77** 3 rec 3 cr  
**Immigration Law**

Hands-on course dealing with concepts and techniques of immigration law. Procedures for preparation of immigrant and non-immigrant visa applications; skills necessary to assist immigrants who seek asylum, citizenship, naturalization or employment, or who face exclusion or deportation proceedings. Emphasis on the practice of immigration law from perspective of a paralegal.

**Corequisite:** ENG 02 or RDL 02 if required.

**LAW 82** 3 rec 3 cr  
**Insurance and Torts**

Survey of the law of insurance and the law of torts, especially as they relate to each other: nature and types of insurance, indemnity and subrogation; the insurance contract; defenses against payment to the insured; government regulations; tort liability; intentional torts; negligent torts, litigation; drafting and research practice; functions of the lawyer and paralegal assistant.

**Corequisite:** ENG 02 or RDL 02 if required.

**LAW 89** 3 rec 3 cr  
**Legal Advocacy**

Administrative law and advocacy, agency advocacy, preparation and conduct of administrative hearings, due process rights, and basics of evidence. Procedural rights in public benefit entitlement programs and the rights of the physically and mentally handicapped and the elderly; also procedural rights in housing programs and overview of landlord and tenant law; administrative advocacy and trial advocacy

**Corequisite:** ENG 02 or RDL 02 if required.

**LAW 91** 3 rec 3 cr  
**Landlord/Tenant Advocacy**

This hands on course deals with concepts and techniques used in Housing Court. Students learn strategies for representing tenants against the New York City Housing Authority, rent stabilization and rent control laws and the Jiggetts Preliminary Relief System. Conduct research in housing and welfare law; develop direct and cross-examination skills.

**Prerequisites:** LAW 17 and LAW 47; completion of 30 credits, a C+ average and permission from director of the program.

**LAW 92** 3 rec 3 cr  
**Estates, Trusts and Wills**

Requirements, formalities, drafting and execution of wills and trusts, probating wills, intestacy law, administration of wills and estates, preparation of federal estate and inheritance tax returns; transfer tax proceedings under the law of New York State; estate planning.

**Corequisite:** RDL 02 or ENG 02 if required.

**LAW 95** 3 rec 3 cr  
**Legal Research and Writing**

How to research legal questions and to present results to supervising attorney. Role of legal research in the process of legal advocacy; historical development and present organization of the Anglo-American legal system, organization and procedures of the New York courts; various tools of legal research and how to use them; skill in researching and answering legal questions in an active law office; skill in organizing and writing legal memoranda.

**Prerequisites:** ENG 11, LAW 17, LAW 47.

**LAW 96** 3 rec 3 cr  
**Advanced Legal Research and Writing**

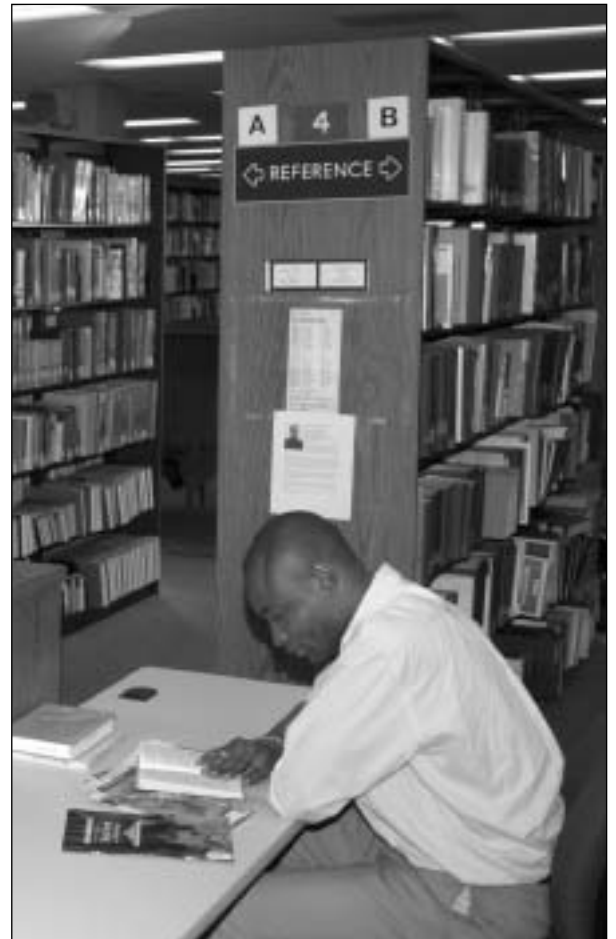
Drafting of pleadings and business agreements; law office memoranda; memoranda of law in support of motions; pretrial and memoranda of law; appellate briefs; and use of computer research tools such as WESTLAW or LEXIS. Substantive aspects, with emphasis on the conduct of practical exercises in research and writing. The art of oral advocacy.

**Prerequisites:** ENG 11, LAW 95, LAW 17, LAW 47.

**LAW 98** 2 rec 2 cr  
**Paralegal Seminar and Internship**

Provides students with an optimal practical experience in the legal field by placing them in various legal environments—law offices or corporate, judicial, or administrative agency—which have shown an interest in sponsoring an intern. The seminar and internship program provides direct contact and utilization of skills and knowledge obtained in the classroom and permits students to practice and perfect those skills in an operating office situation. In addition to satisfying the individual needs of students, this program helps the student crystallize and clarify career goals.

**Prerequisites:** LAW 17; LAW 47, and completion of at least 40 credits toward a degree.



**LEARNING TO LEARN***Department of Education and Reading***LTL 10****3 rec 3 cr****Learning to Learn**

Presents learning strategies for students enrolled in college-level courses who have completed required developmental reading course. Examines organization of information from the various content courses taken concurrently. Teaches interpretation and construction of charts, graphs, tables, maps; task management; incorporation of life skills into the learning environment. Uses analytical approach to development of test questions relevant to the various content areas.

**Prerequisite:** RDL 02 if required.

**Corequisite:** Content area course recommended for probationary students or as an elective.

**LICENSED PRACTICAL NURSING***Department of Nursing and Allied Health Sciences***PNR 11****3 rec 2 cr****Nursing Skills I**

This course, taken over three semesters, is designed to instruct the student practical nurse in basic computation principles essential to performing mathematical calculations for the safe and accurate administration of medications. Included in this course is an introduction to the special vocabulary of medical terminology used in the communication process of health care professionals. Students will be exposed to computer assisted instruction (CAI) and Internet research methods as integral adjuncts to the learning process.

**Prerequisite:** Preclinical nursing sequence.

**PNR 12****2 rec 2 cr****Mental Health Concepts**

This course, is designed to familiarize the student with an overview of the history of nursing, therapeutic communication principles, mental health terminology and cultural concepts as they relate to understanding mental health. Students will be introduced to Maslow's Hierarchy of Basic Human Needs and the nursing process as the prioritizing framework that is used in assisting individuals. The nursing process and critical thinking strategies will be explained as the organizing and problem solving tools that are to be used when assessing the mental status of clients and their families. The scope of practice of the PN in mental health and other health care settings will be defined and explored.

**Prerequisite:** Preclinical nursing sequence.

**PNR 13****2 lec 5 clin 2 lab 4 cr****Practical Nursing Arts**

This course is designed to assist the student PN to gain knowledge of essential nursing skills and procedures, inclusive of scientific principles that will support the development of critical thinking abilities. Maslow's Hierarchy of Basic Human Needs and the Nursing Process is the theoretical framework the PN student will use to problem solve and deliver safe effective care. With direction, PN students will develop skills in: collecting data, recognizing a nursing diagnosis, assisting with the planning and implementation of the nursing care plan, perfecting their ability to perform procedures, handling equipment, and evaluating, reporting and documenting client outcomes.

**Prerequisite:** Preclinical nursing sequence.

**PNR 21****2 lab 1 cr****Nursing Skills II**

This second course in a three-part series continues instruction in the principles of pharmacology computation with the addition of basic principles for reconstituting medication, practicing IV and heparin calculations. Course content will also include instruction in diagnostic testing procedures and the related nursing implications.

**Prerequisites:** PNR 11, PNR 12, PNR 13, NTR 11.

**Corequisite:** PNR 22.

**PNR 22****2 lec 6 clin 2 lab 4 cr****Medical Surgical Nursing I**

This course is designed to introduce Practical Nursing (PN) students to their role in caring for older adult and disabled clients, in a variety of health care settings. PN students will learn how to identify, prevent and manage the most common clinical problems associated with chronic medical and psychosocial disorders. With assistance, PN students will utilize the nursing process, Maslow's Hierarchy of Basic Human Needs, therapeutic communication principles and cultural sensitivity to collect data and implement a holistic plan of care. This course has a clinical requirement. A clinical failure results in a failure for the course.

**Prerequisites:** PNR 11, PNR 12, PNR 13, NTR 11.

**Corequisite:** PHM 11.

**PNR 31****2 lec 6 clin 2 lab 4 cr****Medical Surgical Nursing II**

This course continues to develop critical thinking skills required to apply fundamental knowledge and technical abilities necessary to provide nursing care for adult clients with complex medical and surgical problems in acute health care settings. Content will be presented using the conceptual framework of the nursing process and Maslow's Hierarchy of Basic Human Needs. With guidance, the student will apply the nursing process to prioritize nursing care of adult clients with complex needs. Clinical practice in a variety of acute care settings is provided. A clinical failure results in failure for the course.

**Prerequisite:** PNR 22.

**PNR 41****2 lab 1 cr****Nursing Skills III**

The purpose of this third calculation is to reinforce the student's ability in pharmacology computation. Calculation skills are introduced for pediatric dosages. Students will be required to demonstrate mastery of previously learned computation skills by passing a comprehensive calculation examination with a score not less than 85%. Success on this exam is a requirement for certification of graduation eligibility.

**Prerequisite:** PNR 21.

**PNR 42****2 lab 2 cr****Psychiatric Nursing**

This course focuses on current concepts of psychiatric/mental health nursing. It provides for continuing development of nursing process skills and is a nursing model for practice that is applicable in a variety of health care settings.

**Prerequisites:** PNR 22, PNR 31.

**Corequisite:** PNR 41.

**PNR 43** **2 lect 6 clin 2 lab 4 cr**  
**Pediatric Nursing**

This course emphasizes utilization of the nursing process and Maslow's Hierarchy of Needs to prioritize nursing care based upon disease entity and principles of growth and development. This involves a holistic approach, which includes preventative, curative, rehabilitative, physical, and psychosocial aspects of the hospitalized child and family. The principles of therapeutic communication and cultural competency are strategies the practical nursing student will learn to incorporate when providing care for pediatric clients and their families. This course has a clinical requirement. A clinical failure results in a failure for the course.

**Prerequisites:** PNR 22, PNR 31.

**Corequisites:** PNR 41, PNR 42.

**PNR 44** **2 lect 6 clin 2 lab 4 cr**  
**Maternal and Child Care**

This course utilizes the nursing process and Maslow's Hierarchy of Human Needs to prioritize care to the expectant mother and family during pregnancy, labor, birth and puerperium. In addition, maternity nursing includes the care of the fetus and the neonate. Critical thinking skills, therapeutic communication and cultural competence are integral components in providing and delivering safe and competent care to the pregnant mother and family. This course has a clinical requirement. A clinical failure results in a failure for the course.

**Prerequisites:** PNR 22, PNR 31, PNR 43.

**Corequisite:** PNR 41.

**PNR 45** **1 rec 1 cr**  
**Vocational Adjustment & Leadership**

This course is designed to familiarize the senior practical nursing student with behavioral expectations of the new graduate practicing in the work place setting. Nursing leadership, management and professional practice for the LPN will be explored. Content will be presented that will aid in the completion of a professional portfolio. In addition, emphasis will be placed on the behaviors of professional decorum necessary in preparing for the job search and interview process. Employment opportunities, licensure and certification requirements, and continuing education options will be provided.

**Corequisites:** PNR 41, PNR 44.

**NTR 11** **3 rec 3 cr**  
**Nutrition in Physical and Emotional Disorders**

Basic course in therapeutic nutrition that focuses upon major health problems in western society and the influence of diet on their causes and cures. Traditional and controversial nutritional approaches are presented. Nursing care in selected situations is emphasized.

**Prerequisites:** Open to RN's and LPN's. For RN Students, NUR 41 and 42 or permission of instructor. For LPN students, pre-clinical nursing sequence.



**MARKETING MANAGEMENT***Business and Information Systems Department***MKT 11** 3 rec 3 cr  
**Principles of Marketing**

Introduction to the role and scope of marketing in a rapidly changing and challenging environment. Designed to set an overall framework for further studies in the marketing field. This course surveys broad marketing issues and focuses on the planning and implementation of product, promotion, pricing, and distribution strategies.

**Corequisite:** ENG 02 or RDL 02 if required.

**MKT 18** 3 rec 3 cr  
**Consumer Behavior**

Explores the impact of cultural, social, economic, and psychological influences on consumer decision-making. Highlights the importance of understanding consumer behavior in formulating and implementing the marketing strategy and traces key stages of the consumer decision-making process.

**Prerequisite:** MKT 11.

**MKT 32** 3 rec 3 cr  
**Principles of Selling**

Introduces personal selling as a central component of the marketing strategy. Addresses basic concepts of salesmanship, with an emphasis on the business communication skills needed to inform and persuade prospective customers. Examines sales management tasks, including setting salesforce objectives, designing salesforce strategy, recruiting, selecting, training, and developing salespeople. The legal and ethical issues affecting the sales function are also explored.

**Prerequisite:** MKT 11.

**MKT 33** 3 rec 3 cr  
**Retail Buying Techniques**

Procedures and techniques utilized by retail buyers in determining what, where, when and how much merchandise to buy. Emphasis on planning merchandise assortments, selecting merchandise lines, investigating merchandise sources' negotiating terms and conditions of purchase, placing orders, and pricing.

**Corequisite:** ENG 02 or RDL 02 if required.

**MKT 41** 3 rec 3 cr  
**Management of Retail Operations**

Examines the role of retailing within the larger marketing system and focuses on strategic aspects of retailing. The management decision-making process with respect to key areas, such as growth and diversification strategies, financial planning, store location, merchandising management, human resources management, advertising and sales promotion are explored.

**Prerequisite:** MKT 11.

**MKT 43** 3 rec 3 cr  
**Principles of Advertising**

Introduces advertising as a fundamental business function and as a creative outcome of the marketing strategy. This course addresses a wide variety of conceptual and technical issues, including consumer behavior, market segmentation, advertising planning and research, media and budget considerations, copywriting, art direction and production, and sales promotion.

**Prerequisite:** MKT 11.

**MKT 47** 2 rec 2 lab 3 cr  
**E-Marketing**

Based upon established marketing thought and practice, this course focuses on the impact of the World Wide Web on the formulation and implementation of the marketing strategy. The role of the Web in market analysis as well as in product, promotion, pricing, and distribution strategies is explored. New E-business models designed to increase the efficiency of traditional marketing functions are also examined.

**Prerequisites:** ENG 01 and RDL 01 if required; MKT 11.

**Corequisites:** ENG 02 or RDL 02 if required; DAT 10 or permission of department.

**MKT 48** 3 rec 3 cr  
**Marketing Management**

Designed to provide a basic understanding of key issues facing today's marketing managers, this course introduces the student to fundamental concepts and techniques needed to manage the marketing function. Topics include the analysis of marketing opportunities and constraints, an examination of the decision-making process with respect to product, promotion, pricing, and distribution strategies as well as the planning and delivery of marketing programs. A managerial orientation is developed through the case study method.

**Prerequisites:** ENG 01 and RDL 01 if required; MKT 11.

**Corequisites:** ENG 02 and RDL 02 if required.

**MKT 51** 3 rec 3 cr  
**Channel Management and Physical Distribution**

Overview of basic physical distribution/logistics topics, such as inventory, warehousing, transportation, and the management of product-flow through marketing channels. Includes channel structure and functions, service-cost relationships, inventory control, plant location, packaging, material handling, and the total cost concept of physical distribution management.

**Corequisite:** ENG 02 or RDL 02 if required.



## ■ COLLEGE CURRICULA MATHEMATICS REQUIREMENTS

### A. Mathematics Sequence by Curriculum.

After identifying your curriculum (major) below from the list on the left, see part **B** to determine the first mathematics course you need to take in the mathematics sequence for your choice of curriculum.

Code - Curricula	Required Mathematics Courses Sequence
002 Accounting Curriculum <b>A.A.S. Degree</b>	01 → 03 → 12 / or (05 → 06 → 29 or 30 (→ 31)) *
003 Licensed Practical Nursing	See Nursing Department
004 Animal Care & Management <b>Certificate Program</b>	01 → 03 → 04 → 12 or 21
008 Business Administration <b>A.S. Degree</b>	05 → 06 → 29 or 30 (→ 31#)
Accounting Option 108 Management Option 208 Marketing Management Option 308 Computer Programming Option 408	
009 Automotive Mechanics <b>Certificate Program</b>	None
010 Paralegal Certificate Program	None
011 Education Associate <b>A.A.S. Degree</b>	01 · 03 · 04 · 21 or 23
012 Child Welfare (Old Curriculum) - inactive	
014 Human Services <b>A.A.S. Degree</b> (was once A.A. Degree)*	01 → 03 → 12 / or (01 → 03 → 04 → 21 or 23) *
015 Mathematics <b>A.S. Degree</b>	05 → 06 → 30 → 31 → 32 → 33 and MTH 42 and two courses from {CSI 35, MTH 34, 35, 44, 46}
016 Pharmaceutical Manufacturing Technology <b>A.A.S. Degree</b>	05 → 06 → 13 → 14 / or (05 → 06 → 30 → 31) *
017 Digital Design/Computer Graphics <b>A.A.S. Degree</b> (formerly Advertising Art & Computer Graphics)	01 → 03 → 12 / or (01 → 03 → 04 → 21 or 23) *
020 Computer Information Systems Curriculum <b>A.A.S. Degree</b> Computer Programming Option 220 Web Page Development Option 120	01 → 03 → 12 / or (05 → 06 → 29 or 30 (→ 31)) *
023 Electronic Engineering Technology <b>A.A.S. Degree</b>	05 → 06 → 13 → 14 → 15
024 Engineering Science <b>A.S. Degree</b>	05 → 06 → 30 → 31 → 32 → 33 → 34 (MTH 42) *
025 Computer Science <b>A.S. Degree</b>	05 → 06 → 30 → 31 → 32 → 33 (MTH 34, 42) *
026 Environmental Technology <b>A.A.S. Degree</b>	05 → 06 → 13 and 23
028 Automotive Technology <b>A.A.S. Degree</b>	05 → 06 → 13
031 Community/School Health Education <b>A.S. Degree</b> Dietetics & Nutrition Option 131	01 → 03 → 04 → 21 or 23 or 26
033 Nuclear Medicine Technology <b>A.A.S. Degree</b>	05 → 06 → 30
034 Ornamental Horticulture <b>A.A.S. Degree</b> Commercial Florist Option 134 General Horticulture Option 234 Interior Landscaping Option 334	None (05 → 06) *
036 Secretarial Studies <b>A.A.S. Degree</b>	01 → 03 → 12 / or (05 → 06 → 30) *

Code - Curricula	Required Mathematics Courses Sequence
<b>037</b> Liberal Arts and Sciences <b>A.A. Degree</b> African, Latino and Native American Studies Option 537 Criminal Justice Option c37 Education Option 737 History Option 237 Human Services Option b37 International Studies Option a37 Media Studies Option 837 Political Science Option 337 Psychology Option 437 Security Management d37 Speech Pathology Option 937 Human Services Option b37	01 → 03 → 04 → 21 or 22 or 23 or 26 / or (05 → 06 → 30) †
<b>039</b> Liberal Arts and Sciences <b>A.S. Degree</b> Biology Option 139 Chemistry Option 239 Earth Systems & Environmental Science 639 Physics Option 339	05 → 06 → 30 → 31 → 32 05 → 06 → 30 → 31 → 32 05 → 06 → 30 → 31 → 32 05 → 06 → 30 → 31 → 32 → 33
<b>040</b> Therapeutic Recreation <b>A.S. Degree</b>	01 → 03 → 04 → 21 or 22 or 23 or 26
<b>041</b> Telecommunications Technology <b>A.A.S. Degree</b>	05 → 06 → 13 → 14 → 15
<b>043</b> Secretarial Science – Medical Curriculum <b>A.A.S. Degree</b>	01 → 03 → 12 / or (05 → 06 → 30) *
<b>044</b> Medical Laboratory Technology <b>A.A.S. Degree</b>	05 → 06 → 13 → 14
<b>046</b> Nursing <b>A.A.S. Degree</b>	See Nursing Department
<b>047</b> Pre-Clinical Nursing Program	See Nursing Department
<b>048</b> Radiologic Technology <b>A.A.S. Degree</b>	05 → 06 → 13 / or (05 → 06 → 30 → 31) *
<b>050</b> Pre-Pharmacy ( <i>Old curriculum</i> )	05 → 06 → 30 → 31
<b>056</b> Media Technology ( <i>Formerly TV Tech</i> ) <b>A.A.S. Degree</b>	01 → 03 → 12 / or (01 → 03 → 04 → 21) *
<b>057</b> Paralegal Studies <b>A.A.S. Degree</b>	01 → 03 → 12 / or (01 → 03 → 04 → 21 or 23) §
<b>073</b> Marketing Management Curriculum <b>A.A.S. Degree</b>	01 → 03 → 12 / or (05 → 06 → 29 or 30 (→ 31)) *
<b>141</b> Telecommunications Technology (Verizon) <b>A.A.S. Degree</b>	10 → 11
<b>173</b> Warehouse Management <b>A.A.S. Degree</b>	01 → 03 → 12 / or (05 → 06 → 29 or 30 (→ 31)) *
<b>914</b> Human Services <b>A.A. Degree</b>	01 → 03 → 04 → 21 or 23 / or (05 → 06 → 30) *

\* Student who may later transfer to a four-year college should consider taking these courses.

# Recommended course but not a required course by curriculum.

† Student who may transfer to a four-year college other than CUNY colleges should consider taking these courses.

§ Student who will transfer to New York City Technical College. (Math requirement under review.)

## B. Placement in Mathematics Remedial Courses

Beginning Fall 2004, all entering students take the **COMPASS** exam for placement in mathematics courses. Before Fall 2004, students took the **CMAT** for this purpose.

### b1. COMPASS Cut-off Scores for Mathematics Placement

IMPORTANT: COMPASS scores are used for initial placement only. Once a student has been placed into a mathematics sequence, subsequent COMPASS scores cannot be used to “skip” courses in the sequence. Students can place out of any remedial course by passing a departmental placement exam.

<p><b>Liberal Arts (non-science)</b> <i>Mathematics Course Sequence:</i> MTH 01 → MTH 03 → MTH 04 → MTH 21 / 23</p> <p><b>COMPASS Score</b></p> <p><b>M1:</b> 0 - 26 <b>M1:</b> 27 or more, and <b>M2:</b> 0 - 30 <b>M1:</b> 27 or more, and <b>M2:</b> 31 - 50</p> <p><b>Placement</b></p> <p>MTH 01 MTH 03 MTH 04</p> <p>Students with scores other than listed above should consult with Mathematics Department for placement. MTH 12 is a course for non-science students who do not plan to attend a four-year-college. Prerequisites for MTH 12 are the same as for MTH 04</p>	<p><b>Mathematics, Science, Technology and Business (transfer programs)</b> <i>Mathematics Course Sequence:</i> MTH 05 → MTH 06 → MTH 30 (or MTH 29 or MTH 13)</p> <p><b>COMPASS Score</b></p> <p><b>M2:</b> 0 - 38* <b>M2:</b> 39 - 99 and <b>M4:</b> 0 - 26</p> <p><b>Placement</b></p> <p>MTH 05 MTH 06</p> <p>Students with scores other than listed above should consult the Mathematics Department for placement. MTH 04 does NOT offer sufficient preparation for MTH 30 (MTH 29, MTH 13). Students who have passed MTH 04 and are in a program which requires any of these courses, need to take MTH 06.</p>
--	--

\* Students with placement score M1 less than 25 are encouraged to take MTH 01.

### b2. CMAT Cut-off Scores for Mathematics Placement

IMPORTANT: CMAT scores are used for initial placement only

Place out of	Part I Arithmetic (20)	Part II Elementary Algebra (20)	The Sum of Parts I & II (40)	Part III Intermediate Algebra (20)	Part IV Trigonometry (8)	Part V Precalculus (12)
MTH 01	≥12		≥25			
MTH 03	-	≥12	≥25			
MTH 04	-	-	≥25	≥13		
MTH 05	-	≥14	≥25			
MTH 06	-	-	≥25	≥13	≥4	
MTH 13 or MTH 30	-	-	≥25	≥13	≥4	≥8

NOTE: If students have taken advanced algebra in high school and wish to take MTH 31, then they may be exempt from MTH 30 by taking an exemption examination administered by the Department of Mathematics and Computer Science.

## C. High School Equivalency

MTH 03/MTH 05	Seq Math I (SMQ I) : MQ1 and MQ2 [9 <sup>th</sup> grade math], or Math A
MTH 04	Seq Math II (SMQ II) : MQ3 and MQ4 [10 <sup>th</sup> grade math]
MTH 06	Seq Math III (SMQ III) : MQ5 and MQ6, or Math B



## ■ MATHEMATICS

Department of Mathematics and Computer Science

The zero-level courses are taken for no credit and are remedial or compensatory in nature. They are designed for students who lack the preparation necessary to enter the college-level mathematics courses.

### MTH 01 3 rec 0 cr Fundamental Concepts and Skills in Arithmetic and Algebra

Topics selected from basic operations in arithmetic, verbal problems whose solutions involve arithmetic processes, generalizations of the principles of arithmetic leading to the fundamental concepts of algebra.

*Liberal Arts (non-science) and Science, Technology and Business (transfer programs) should refer to the PLACEMENT IN MATHEMATICS REMEDIAL COURSES CHART on page 150 for appropriate course.*

**Corequisite:** RDL 01 if required.

### MTH 03 4 rec 0 cr Selected Topics in Elementary Algebra

Topics selected from elementary algebra, geometry, operations with polynomials, graphing, verbal problems, linear equations.

*For students who are not in programs requiring MTH 06.*

**Prerequisite:** Liberal Arts (non-science) and Science, Technology and Business (transfer programs) should refer to the PLACEMENT IN MATHEMATICS REMEDIAL COURSES CHART on page 150 and RDL 01 if required.

**Corequisite:** RDL 02 if required.

### MTH 04 4 rec 0 cr Selected Topics in 11th Year Mathematics

Topics selected from relations and functions, quadratic equations, systems of equations, coordinate geometry, radicals, geometry, elements of trigonometry.

**Prerequisite:** Liberal Arts (non-science) and Science, Technology and Business (transfer programs) should refer to the PLACEMENT IN MATHEMATICS REMEDIAL COURSES CHART on page 150 and RDL 02 if required.

### MTH 05 6 rec 0 cr Basic Concepts of Mathematics I

Topics selected from elements of arithmetic, elementary algebra and geometry, equations, polynomials, rational algebraic expressions, graphing.

*For students who are in programs requiring MTH 06 and who scored below 14 on the second 20 questions of the CUNY Mathematics Assessment Test.*

**Prerequisite:** Liberal Arts (non-science) and Science, Technology and Business (transfer programs) should refer to the PLACEMENT IN MATHEMATICS REMEDIAL COURSES CHART on page 150 and RDL 01 if required.

**Corequisite:** RDL 02 if required.

### MTH 06 6 rec 0 cr Basic Concepts of Mathematics II

Topics selected from real and complex numbers, function concept, coordinate geometry, linear and quadratic equations, systems of equations, geometry, elements of trigonometry.

**Prerequisite:** MTH 05 or two years of high school mathematics consisting of algebra and geometry or equivalent and RDL 02 if required.

#### Exemption Examinations

Qualified students may take exemption examinations for all courses offered by the Mathematics Department upon application to the department. In general, a grade of B+ or better is required for exemption with credit. A passing grade less than B+ but C or better, will qualify for exemption without credit.

### MTH 10 4 rec 4 cr Technical Mathematics I

*(For Telecommunications Technology Verizon students only.)* First course in a two-semester sequence of intermediate algebra and trigonometry with technical applications. Topics include trigonometry functions, vectors, units of measurement and approximate numbers, fundamentals concepts of algebra, functions and graphs, systems of linear equations, determinants, factoring and fractions, quadratics, variation and geometry. The scientific calculator is used throughout the course.

**Prerequisite:** MTH 06 or equivalent and ENG 02 and RDL 02 if required.

### MTH 11 4 rec 4 cr Technical Mathematics II

*(For Telecommunications Technology Verizon students only.)* Second course in a two-semester sequence of intermediate algebra and trigonometry with technical applications. Topics include trigonometry functions of any angle, oblique triangle, graphs of logarithmic functions, exponents and radicals, exponential and logarithmic functions, basic operations with complex numbers, inequalities, introduction to statistics. The scientific calculator is used throughout the course.

**Prerequisites:** MTH 10 or equivalent and ENG 02 and RDL 02 if required.

Any course numbered 12 through 15 is, with some modification, recommended only for those students enrolled in career programs.

**MTH 12** 3 rec 3 cr  
**Introduction to Mathematical Thought**

Topics selected from probability, statistics, logic, set theory, geometry, matrices, number system structures. (Not recommended for transfer curricula, and will not be accepted for credit in the Liberal Arts curriculum.)

**Prerequisites:** MTH 03 or equivalent and ENG 01 and RDL 02 if required.

---

ENG 02 and RDL 02, if required, are prerequisites for all MTH courses numbered 13 and higher.

MTH 13, 14, 15 are recommended for students in career technology curricula such as Automotive Technology, Electronic Engineering Technology, Medical Laboratory Technology and Telecommunications Technology curricula.

**MTH 13** 4 rec 3 cr  
**Trigonometry and College Algebra**

Topics selected from vectors, trigonometry, variation, logarithms, complex numbers and DeMoivre's theorem, theory of equations, and system of equations.

**Prerequisites:** MTH 06 or equivalent and ENG 02 and RDL 02 if required.

**MTH 14** 3 rec 3 cr  
**College Algebra and Introduction to Calculus**

Analytic geometry, inequalities and absolute value, limits and derivative, application of derivative.

**Prerequisites:** MTH 13 or equivalent and ENG 02 and RDL 02 if required.

**MTH 15** 3 rec 3 cr  
**Calculus**

Integrals, application of integrals, differentiation of trigonometric and logarithm functions, methods of integration, power series and Fourier Series.

**Prerequisites:** MTH 14 or equivalent and ENG 02 and RDL 02 if required.

---

MTH 21, 22, 23 and 26 are non-sequential courses primarily for Liberal Arts students enrolled in non-science transfer programs. MTH 21, 22 and 26 are recommended for Liberal Arts students and as electives for students in other curricula. MTH 23 is recommended for students in such social sciences as economics, political science, psychology and sociology.

**MTH 21** 3 rec 3 cr  
**Survey of Mathematics I**

Designed for non-science liberal arts students. Emphasis on key concepts and structure of mathematics. Topics selected from decimal notation, computation in other bases, groups, sets, logic, elementary number theory, development of real number system, analytic geometry, linear programming, networks, complex numbers.

**Prerequisites:** MTH 04 or equivalent and ENG 02 and RDL 02 if required.

**MTH 22** 3 rec 3 cr  
**Survey of Mathematics II**

Topics selected from geometry, algebra, graphs, functions, game theory, mathematical induction, permutations, combinations, probability, logic; Euclidean, non-Euclidean, projective, finite, and coordinate geometries; groups, matrices.

**Prerequisites:** MTH 04 or equivalent and ENG 02 and RDL 02 if required.

**MTH 23** 3 rec 3 cr  
**Probability and Statistics**

Topics selected from permutations, combinations, probability, sets, finite sample spaces, probabilities as areas, basic statistical concepts, the normal distribution, central limit theorem.

**Prerequisites:** MTH 04 or equivalent and ENG 02 and RDL 02 if required.

**MTH 26** 2 rec 2 lab 3 cr  
**Mathematics in the Modern World**

Topics selected from BASIC computer language; mathematical simulation of problems from diverse fields including water pollution, population studies, political polls, and artificial intelligence; mathematical algorithms and interpretation of graphs.

**Prerequisites:** MTH 04 or equivalent and ENG 02 and RDL 02 if required.

**MTH 29** 4 rec 4 cr  
**Pre-Calculus for Business Students**

Topics selected from real numbers, functions, straight lines, linear systems (Gauss eliminations), vectors, matrices, graphs of polynomials, exponential and logarithmic functions, compound interest, equations of equivalence, annuities, perpetuities, Markov chains, trigonometry, rational functions. (For students who plan to transfer to Bernard M. Baruch College.)

**Prerequisites:** MTH 06 or equivalent and ENG 02 and RDL 02 if required.

---

MTH 30 through 35 are designed for students majoring in mathematics, physics, biology, chemistry, engineering science, computer science, and are recommended for those in other curricula with advanced preparation.

**MTH 30** 4 rec 4 cr  
**Pre-Calculus Mathematics**

Topics include inequalities, function concept, special functions, exponential and logarithmic function, rational and irrational functions, binomial theorem, trigonometric functions, mathematical induction.

**Prerequisites:** MTH 06 or equivalent and ENG 02 and RDL 02 if required.

**MTH 31** 6 rec 4 cr  
**Analytic Geometry and Calculus I**

Limits, rates of change, differentiation and anti-differentiation of algebraic functions, applications, integrals, curve sketching. For Engineering Science students or for Liberal Arts and Sciences students planning to major in mathematics, computer science or physical science.

**Prerequisite:** MTH 30 or equivalent and ENG 02 and RDL 02 if required.

**MTH 32** 6 rec 5 cr  
**Analytic Geometry and Calculus II**

Differentiation and integration of transcendental functions, hyperbolic functions, applications of the definite integral; parametric equations, mean value theorems, polar coordinates, plane analytic geometry.

**Prerequisites:** MTH 31 or equivalent and ENG 02 and RDL 02 if required.

**MTH 33** 5 rec 5 cr  
**Analytic Geometry and Calculus III**

Vectors, applications of vectors to analytic geometry and calculus, partial differentiation, multiple integrals, volumes and surface area, infinite series, applications.

**Prerequisites:** MTH 32 or equivalent and ENG 02 and RDL 02 if required.

**MTH 34** 4 rec 4 cr  
**Differential Equations and Selected Topics in Advanced Calculus**

Methods of solving ordinary differential equations; selected topics from among the following: hyperbolic functions, power series, Fourier series, gamma functions, Bessel functions, problems of motion, electric circuits, damped and forced vibrations, Laplace transform.

**Prerequisites:** MTH 33 or equivalent and ENG 02 and RDL 02 if required.

**MTH 35** 4 rec 4 cr  
**Selected Topics in Advanced Calculus and Linear Algebra**

Matrices, introduction to linear algebra and vector analysis, integral theorems of Gauss, Green and Stokes; applications.

**Prerequisites:** MTH 33 or equivalent and ENG 02 and RDL 02 if required.

**MTH 42** 4 rec 4 cr  
**Linear Algebra**

Vector spaces, basis and dimension, matrices, linear transformations, determinants, solution of systems of linear equations, eigenvalues and eigenvectors.

**Prerequisites:** MTH 32 or equivalent and ENG 02 and RDL 02 if required.

**MTH 44** 4 rec 4 cr  
**Vector Analysis**

Differential geometry of curves, line integrals, surface integrals, change of variables, Green's theorem, Stokes' theorem, Gauss's Theorem.

**Prerequisites:** MTH 33 or equivalent and ENG 02 and RDL 02 if required.

**MTH 46** 4 rec 4 cr  
**Abstract Algebra**

Properties of integers, permutations, groups, alternating groups, groups of symmetries, quotient groups, sets, mappings, isomorphisms, homomorphisms, rings, fields, polynomials.

**Prerequisites:** MTH 42 or equivalent and ENG 02 and RDL 02 if required.

**MTH 48** 4 rec 4 cr  
**Advanced Calculus**

Advanced treatment of the real number system, properties of continuous functions, derivatives and differentials, rigorous work with limits, the definite integral, uniform continuity, uniform convergence, infinite sequences, functions defined by series.

**Prerequisites:** MTH 33 or equivalent and ENG 02 and RDL 02 if required.

**MECHANICAL TECHNOLOGY**

Department of Physics and Technology

**MEC 11** 1 lect 4 lab 2 cr  
**Basic Engineering Graphics**

Fundamental engineering drawing and industrial drafting room practice. Lettering, orthographic projection, auxiliary views, sections and conventions, pictorials, threads and fasteners, tolerances, detail drawing, dimensioning and electrical drawings; introduction to computer-aided graphics.

**Prerequisite:** MTH 05.

**MUSIC**

Department of Art and Music

**MUS 10** 2 rec 1 cr  
**Music Survey**

Introduction to the vast symphonic and chamber music literature; opera from Baroque to the contemporary period. Audio laboratory listening assignments. Attendance at live concerts required.

*Not open to students taking MUS 11 or MUS 12*

**Corequisite:** ENG 02 or RDL 02 if required.

**MUS 11** 3 rec 3 cr  
**Introduction to Music**

Nature of music expression; elements of music, including tempo, meter, rhythm, melodic and harmonic material and structure, tone color and texture examined in instrumental and vocal forms. History of development of musical styles and forms. Audio laboratory listening assignments. Attendance at live concerts required.

**Corequisite:** ENG 02 or RDL 02 if required.

**MUS 12** 3 rec 3 cr  
**Introduction to Music:  
A Multi-Cultural Survey of World Music**

In-depth study and analysis of music (style, form, and tradition) and its relation to world cultures. Emphasis on ethnic and artistic characteristics. Audio laboratory listening assignments. Attendance at live concerts required.

**Corequisite:** ENG 02 or RDL 02 if required.

**MUS 14** 2 rec 2 lab 3 cr  
**Creative Computer Music**

Lecture-demonstrations and lab settings to familiarize students with capabilities of MIDI (Musical Instrument Digital Interface) technologies. Students master MIDI applications of the personal computer with regard to sequencing, sound editing, storage and retrieval. Emphasis on use of MIDI and ability to set up an MIDI workstation.

**MUS 18** 2 rec 2 cr  
**History of Jazz**

Survey of development of jazz music from time of slavery to the present. Audio laboratory listening assignments. Attendance at live concerts required.

**Corequisite:** RDL 02 if required.

**MUS 21, 22, 23, 24** 3 rec 1 cr each  
**Choral Performance**

The study and presentation of standard and contemporary choral literature for mixed voices. Choral training and performances at concerts, college ceremonies and functions.

*No audition required; open to all members of the college community.*

**MUS 37** 1 rec 1 cr  
**Instrumental Class**  
**Instruction in the Recorder**

Basic instruction in playing a musical instrument, the recorder, for both solo and group use. No previous musical training necessary.

**MUS 40** 3 rec 2 cr  
**Fundamentals of Music**

Basic reading skills including treble and bass clefs, key signatures, major and minor scales, some elementary sight-reading techniques, rhythms, simple harmony.

**MUS 50** 2 rec 1 cr  
**Basic Musicianship**

Development of basic aural perceptions of pitch, duration, intensity, timbre, melody and rhythm through listening exercises, singing, and the playing of simple musical instruments.

**MUS 65** 2 rec 1 cr  
**Beginning Guitar Class**

Introduction to basic guitar techniques, harmonization and transposition of folk songs.

**MUS 66** 2 rec 1 cr  
**Guitar Class II\***

**Prerequisite:** MUS 65 or departmental permission.

**MUS 70** 2 rec 1 cr  
**Piano Class for Beginners**

Introduction to basic piano techniques, harmonization and transposition of simple accompanying techniques for folk songs, easy piano literature from all stylistic eras. Practice facilities available.

**MUS 71** 2 rec 1 cr  
**Secondary Piano I**

**MUS 72** 2 rec 1 cr  
**Secondary Piano II**

Class instruction to attain an elementary facility at the piano.  
**Prerequisite: for MUS 71:** MUS 70 or departmental permission  
**for MUS 72:** MUS 71 or departmental permission.

\*Not offered on a regular basis. Course descriptions available upon request.



## ■ NUCLEAR MEDICINE TECHNOLOGY

*Department of Physics and Technology*

The following courses will be given at the Albert Einstein College of Medicine or at the hospitals affiliated with it.

**NMT 71** 2 lab 1 cr  
**Nuclear Physics Laboratory**

Chronological development of nuclear physics in the 20th century as represented by the experimental work on black-body radiation, photoelectric effect, matter waves, Compton scattering and pair-production. Comparison of radiation measuring devices including G.M and scintillation survey meters, gamma cameras, well counters and dosimeters. Quality control and radiation safety.

**Prerequisites:** PHY 24 and permission of the NMT Program Director;  
**Corequisites:** NMT 81-84.

**NMT 78** 2 lab 1 lect 2 cr  
**EKG - Interpretation and Techniques**

Introduction to EKG. Topics include: electrical physiology of the heart, electrocardiographic tracing, leads (3 vs. 12), and analog and digital EKG. Some clinical hours may extend beyond the semester.

**Prerequisites:** BIO 24 and permission of the NMT Program Director.

**NMT 79** 2 lab 1 lect 2 cr  
**Phlebotomy**

Introduction to phlebotomy. Topics include: phlebotomy principles, anatomy and physiology of the circulatory system, safety, equipment and techniques. Students completing this course qualify for the certification exam in phlebotomy.

**Prerequisite:** BIO 24.

**NMT 81** 3 lect/dem 3 cr  
**Orientation in Clinical Nuclear Medicine**

Orientation to the hospital environment and to various phases of Nuclear Medicine Technology; hospital administration and procedures.

**Prerequisite:** Completion of Pre-NMT Sequence.

**NMT 82** 3 lect/dem 3 cr  
**Radio-Pharmaceutical Chemistry**

Preparation and use of radio-pharmaceuticals, uptake of various organs of radioactive chemicals, time dependent effects dilutions and separation analyses.

**Prerequisites:** BIO 23, CHM 18, NMT 81.

**Corequisite:** NMT 71..

**NMT 83** 2 rec 2 lab 3 cr  
**Radiation Physics and Dosimetry**

Elements of nuclear physics, the conservation laws; alpha, beta, and gamma decay; the neutrino; elements of health physics; the roentogen, REM, REP, and RAD; maximum safe human exposure to radiation; regulations governing exposure.

**Corequisite:** NMT 71.

**NMT 84** 2 lect 2 cr  
**Radiation Biology**

Comprehensive study of radiation effects on cells including direct and indirect action of ionizing radiation; damage induced by free radicals in DNA; interpretation of survival data; radiation genetics; radiation effects on embryos; delayed effects; radiation safety and health physics.

**Prerequisites:** NMT 71.

**NMT 85** 1 lect 3 lab 2 cr  
**Nuclear Medicine Procedures**

Nuclear medicine procedures related to cardiovascular pulmonary system, endocrine system, central nervous system, gastrointestinal system, genitourinary system, skeletal system, hematological system and other therapeutic procedures; introduction to radioimmunoassay principles and procedures.

**Prerequisites:** BIO 24, NMT 83.

**NMT 86** 2 rec 1 cr  
**Didactic Nuclear Medicine**

Rationale for applications of radio pharmaceuticals for in vivo and in vitro procedures; discussion of individual organ systems, RIA principles and procedures; review of relevant medical law and patient care.

**Prerequisite:** NMT 85.

**NMT 87** 1,100 clin/lab 4 cr  
**Clinical Nuclear Medicine**

Static and dynamic radionuclide procedures on patients; tomographic procedures; interpretation of radionuclide scans and gamma-camera images; nuclear medicine instrumentation; alternative imaging processes.

**Prerequisite:** NMT 86.

**Corequisite:** NMT 88.

**NMT 88** 1 lect 1 cr  
**Senior NMT Seminar**

Students meet with Medical Director's liaison and Clinical Director to discuss research topics in Nuclear Medicine. Term papers and oral reports based on assigned reading material and concepts analyzed during the didactic and laboratory segments of the NMT program.

**Prerequisite:** NMT 86.

**Corequisite:** NMT 87.

**NMT 89** 2 lect 4 lab 160 clin 4 cr  
**Introduction to Cardiac Ultrasound**

Topics include physics of ultrasound, ultrasound instrumentation, emergency medical procedures, Doppler and transesophageal echocardiology. Clinical rotation is at Montefiore Medical Center where each student participates in approximately 150 procedures. Students completing this course will receive a certificate from Montefiore Medical Center.

**Prerequisite:** BIO 24, permission of NMT Program Director.

**■ NURSING\***

*Department of Nursing and Allied Health*

Admission to Nursing (NUR) courses is based on the approved priority list which is on file in the Nursing Department and Student Development.

**NUR 10** 1 lect 1 cr  
**Transition in Nursing**

Designed for Licensed Practical Nurses entering the RN Fast Track and the RN Pathway. The focus is on the expectations for coursework in the program, pharmacology calculation review, changes in role from LPN to RN.

**Prerequisite:** Pre-Clinical Nursing Sequence.

**NTR 11** 3 rec 3 cr  
**Nutrition in Physical and Emotional Disorders**

Basic course in therapeutic nutrition that focuses upon major health problems in western society and influence of diet on their causes and cures. Traditional and controversial nutritional approaches are presented. Nursing care in selected situations emphasized. (Offered in the Fall Semester only.)

**Prerequisite:** For RN students, NUR 41 and 42 or permission of instructor. Also open to RNs and LPNs. For LPN students, pre-clinical nursing sequence.

**NUR 41** 2 lect 2 cr  
**Nursing Theory and the Nursing Process†**

Introduction to the concepts of adaptation, holism, and the nursing process as basis for client care.

**Prerequisite:** Pre-Clinical Nursing Sequence.

**Corequisites:** NUR 42, BIO 24.

**NUR 42** 2 lect 5 clin 2 lab 4 cr  
**Nursing Process and Fundamental Skills†**

Designed to assist student in promoting client adaptation to stress. Introduction to client adaptive and ineffective responses to stress and nursing interventions. Basic nursing principles and skills, learned in lecture and laboratory are applied in clinical setting.

**Prerequisite:** Pre-Nursing Sequence.

**Corequisites:** NUR 41, BIO 24.

\* NUR courses are open only to students with full matriculation in the Nursing (046) curriculum.

**NUR 43** 2 lect 6 clin 4 cr  
**Nursing Process: Psychosocial Adaptation I†**

Focuses on understanding and promoting psychosocial adaptation in adult clients who have major mental health problems. The Nursing Process is utilized in one-to-one and group interactions in the clinical area.

**Prerequisites:** NUR 41, NUR 42, BIO 24.

**Corequisites:** NUR 44, BIO 28.

**NUR 44** 2 lect 6 clin 4 cr  
**Nursing Process: Biopsychosocial Adaptation†**

This introductory medical-surgical nursing course focuses on client adaptation to stress that results from selected traumatic, inflammatory, and neoplastic disease processes of various body systems. Medical therapies and surgical interventions are discussed. A planned program of supervised experiences on medical and surgical units in selected health care agencies is provided.

**Prerequisites:** NUR 41, NUR 42, BIO 24.

**Corequisites:** NUR 43, BIO 28.

**NUR 45** 2 lect 6 clin 4 cr  
**Nursing Process: Biopsychosocial Adaptation to the Maternity Cycle†**

Focuses on adaptations occurring in human reproduction. Emphasis on the nurse's responsibility for promoting and maintaining the health and adaptation of the family in response to changes/stimuli occurring during the reproductive cycle.

**Prerequisites:** NUR 43, NUR 44, BIO 28.

**Corequisite:** NUR 46.

**NUR 46** 2 lect 6 clin 4 cr  
**Nursing Process: Biopsychosocial Adaptation II†**

Advanced medical-surgical nursing course focuses on client adaptation to stress that results from selected traumatic, inflammatory, and neoplastic disease processes of various body systems. Special adaptation problems of the aged and the chronically ill are also included. Medical therapies and surgical interventions are discussed. Provides planned program of supervised experience on medical and surgical units in selected health care agencies.

**Prerequisites:** NUR 43, NUR 44, BIO 24, BIO 28.

**Corequisite:** NUR 45.

**NUR 47** 2 lect 6 clin 4 cr  
**Nursing Process: Biopsychosocial Adaptation to Childhood†**

Focus is on the unique needs and adaptive mechanisms required to promote the growth and development of infants and children within the family structure. Includes the ineffective responses that are prevalent during specific developmental phases.

**Prerequisites:** NUR 45, NUR 46.

**Corequisite:** NUR 48.

**NUR 48** 2 lect 6 clin 4 cr  
**Leadership and Management†**

This senior level course provides student the opportunity to practice leadership and management skills in settings where clients have complex health needs.

**Prerequisites:** NUR 45, NUR 46.

**Corequisite:** NUR 47.

**PAS 11** 1.5 rec 1.5 lab 2 cr  
**Physical Assessment of the Adult**

Provides a systematic method for conducting a physical examination of the adult client. Seminars, audiovisual materials and practice are integrated to enhance the development of skills in conducting the examination using specialized instruments and techniques; and in documenting findings. Instruments necessary for conducting the examination are provided. (Offered in the Spring Semester only.)

**Prerequisite:** NUR 44 or (R.N.) Registered Nurse license; or (LPN) Licensed Practical Nurse license; or Nursing students who have completed a course in Anatomy and Physiology and a course in an acute nursing care setting; with permission of Nursing Department.

**PHM 10** 2 rec 2 cr  
**Pharmacology Computations**

Symbols, weights and measures, equipment, metric and apothecary systems, preparation of solutions, intravenous fluid administration of drugs and computation of dosages required of nursing personnel. Computer Center modules are an integral adjunct to the course.

**Prerequisite:** A minimum score of **35** in arithmetic (**M1**) and a minimum score of **27** in Algebra (**M2**) on the CUNY COMPASS PLACEMENT TEST or permission of the department.

**PHM 11** 3 rec 3 cr  
**Pharmacology as It Applies to Health Services**

Current major drugs utilized in nursing today, need, therapeutic action, mode of administration, common side effects, toxicity, normal range of dose drug interactions and contraindications; nursing implications including patient teaching are stressed.

**Prerequisite:** Students need to complete all remediation for admission to nursing. PHM11 is also available to RN, LPN, and Health Care Workers authorized to administer medications. It is recommended that students in the RN program complete NUR 42 before taking PHM 11.

For students in the LPN program:

**Prerequisites:** PNR 11, PNR 13, and NTR 11.

**Corequisite:** PNR 22.

†The minimum acceptable grade in Nursing (NUR) courses is C. Grades of C- D+, D, D-, F and W must be repeated if the student wishes to receive a degree in Nursing.

The courses must be repeated according to the following conditions:

1. The course must be repeated before the next higher level course is taken.
  2. A Nursing student may only attempt a given Nursing course twice.
- Note:** Attempt is defined as having registered in the course for at least 3 weeks, appeared on the roster and received any grade, academic or administrative.
3. A Nursing student may only repeat two different Nursing courses.
  4. Nursing students who are unsuccessful in three different Nursing (NUR) courses may not continue in the program.
  5. All Nursing courses required for graduation must be taken within a five-year time span.

**ORIENTATION***Department of Student Development***OCD 01** 1 rec 0 cr  
**Orientation and Career Development**

Course enables student to develop basic college survival skills in areas of academic life, setting career goals, time management, analysis of classroom behavior, assessment of instructor demands and utilization of library and other college resources. Emphasis on students' understanding of academic environment and its demands on their developing successful coping and achievement behavior. **Required in all curricula.**

**OCD 11** 2 rec 1 cr  
**Career Development**

A comprehensive examination of the career decision-making process involving relevant information about self and the world of work. Exploration of values, skills, abilities, and interests, and their relationship to the job market. Development of career knowledge and awareness including training requirements, life style, and employment opportunities. Self-marketing and job hunting skills.

**Prerequisite:** ENG 01, RDL 01, OCD 01, completion of 30 credits (remedial courses included) or permission of instructor.

*Business and Information Systems Department***ORI 43** 1 rec 0 cr  
**Secretarial Senior Orientation**

For students in secretarial curricula. Seminar on career planning; survey of employment opportunities; resume preparation and techniques of job seeking.

**PHILOSOPHY***Department of History***PHL 11** 3 rec 3 cr  
**Introduction to Philosophy**

Fundamental questions of human experience, and basic problems of philosophy; survey of major philosophers, classical and modern.

**Corequisite:** ENG 02 or RDL 02 it required.

**PHYSICAL EDUCATION  
AND WELLNESS***Department of Health, Physical Education and Wellness*

A medical examination is required every two years. A College Medical Form can be secured in the Health Service Office, Loew 101. Students unable to participate in any activity course for medical reasons must make an appointment to see the College nurse upon admission to the College.

**CPR 10** 1 lab 1 cr  
**Cardiopulmonary Resuscitation  
(Does not fulfill PEA requirement)**

Designed to develop basic life support, knowledge and skill in cardiopulmonary resuscitation (clearing obstructed airways and mouth to mouth resuscitation). Students meeting the American Red Cross standards will receive ARC certification.

**PEA 11** 2 rec 1 cr  
**Fitness for Life**

Designed to assist students in evaluating their present level of fitness and to provide opportunities for self-improvement. Selection from the following aerobic activities: weight training, jogging, fitness games, interval training and exercise bikes.

**PEA 12** 2 rec 1 cr  
**Elementary Hatha Yoga**

Progressive exercises designed to improve flexibility, develop efficient breathing and apply relaxation techniques. History of yoga, physiological benefits, stress management techniques, nutritional aspects and body awareness are interwoven to emphasize the integral nature of body and mind.

**PEA 14** 2 lab 1 cr  
**Aerobic Dance**

Students participate in aerobic dance to improve cardiovascular fitness; activities designed to develop nutritional and weight maintenance programs.

**PEA 15** 2 lab 1 cr  
**Walking, Jogging and Weight Training**

Walking, jogging and weight training to develop cardiovascular endurance and muscle toning. Students are placed in individualized programs in jogging and weight training.

**PEA 21** 2 rec 1 cr  
**Beginning Swimming Level**

Basic water safety skills and knowledge to make an individual reasonably safe while in, on, or about the water. Registration limited to **non-swimmers**.

**PEA 22** 2 rec 1 cr  
**Intermediate Swimming Level**

Basic elements of good swimming; includes swimming techniques with emphasis upon mastering form and endurance in the front crawl, back crawl, elementary backstroke and deep water survival skills.

**Prerequisite:** PEA 21 or the ability to swim at least 25 yards using a crawl and/or backstroke.

**PEA 23** 2 rec 1 cr  
**Swimming**

Intended for students beyond the intermediate swimming level. Emphasis on mastering form and endurance in crawl, back crawl, breaststroke, butterfly and sidestroke. Also covers competitive techniques of swimming, survival skills, and basic skin diving.

**Prerequisite:** PEA 22 or ability to swim at least 50 yards, using a crawl stroke and/or backstroke in deep water.

**PEA 24** 2 rec 1 cr  
**Lifeguard Training**

Development of skills and knowledge essential for a person to qualify as a nonsurf lifeguard. Successful completion of this course qualifies student for American Red Cross Lifeguard Training Certificate. Students should expect to spend approximately \$30 to cover the cost of certification.

**Prerequisite:** Ability to swim 500 yards, employing front crawl, breaststroke, elementary backstroke and sidestroke.

**PEA 25** 1 lect 2 rec 2 cr  
**Water Safety Instructor\***

Course prepares the student to teach American Red Cross Water Safety courses. Successful completion of this course qualifies student for an American Red Cross Water Safety Instructor certificate. Students should expect to spend \$30 to cover the cost of certification.

**Prerequisite:** Student must be at least 17 years of age and have the ability to perform the American Red Cross swimmer level skills and the elementary backstroke, breaststroke, sidestroke, crawl stroke and back crawl.

**PEA 27** 2 rec 1 cr  
**Basic Skin Diving and Scuba Diving†**

**PEA 28** 2 rec 1 cr  
**Water Aerobics**

Water exercise geared to improvement of posture, muscle tone and general coordination while increasing strength, flexibility and endurance. Students enjoy the benefits of invigorating exercise without stress in a relaxing pool environment. Open to swimmers and non-swimmers.

**PEA 30** 2 lab 1 cr  
**Introduction to Volleyball**

Basic skills related to volleyball: setting, underhand passing, blocking and spiking. Ten strategy and various offensive combinations as well as terminology and rules.

**PEA 33** 4 rec 7 1/2 wks 1 cr  
**Beginning Tennis**

Fall semester first 7 1/2 weeks; spring semester last 7 1/2 weeks. Students will be notified of starting date. For beginning players. Skills include the forehand, backhand and serve plus elementary singles and doubles strategy. All equipment furnished by College. Meets two times a week, 2 rec. per session for 7 1/2 weeks.

**PEA 41** 2 rec 1 cr  
**Techniques of Jazz Dance**

Basic techniques of jazz dance; development of new dance skills including kicks, turns, pivots, isolations, stretches, and traveling movements that will increase the ability to perform to contemporary music and to express oneself through dancing. Students will also have the opportunity to create original movement and to analyze dance on video.

**PEA 46** 1 lect 2 rec 2 cr  
**African, Caribbean and Black Dance Forms†**

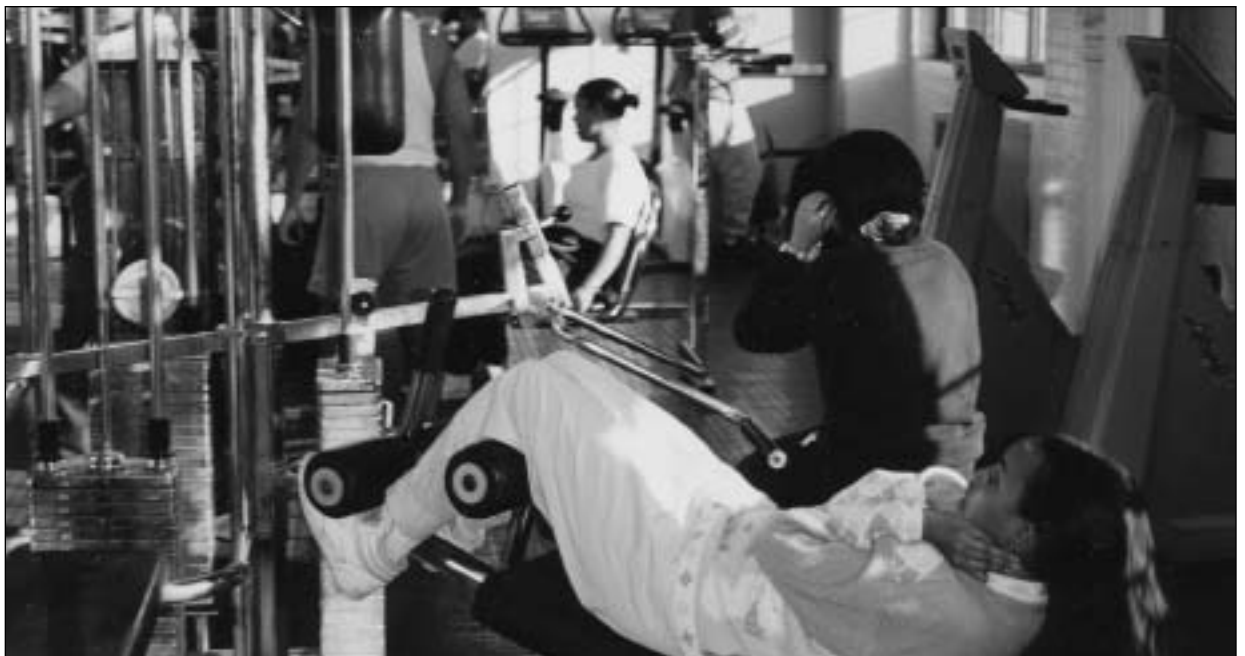
**PEA 47** 2 lab 1 cr  
**Beginning Salsa**

In this course students will master the beginning Salsa dance steps so that they may feel comfortable in social dance situations. Dance technique will include handholding positions, rhythmic accuracy, leading and following techniques, the basic step and variations, shines, turning, and dipping. Students will also learn about the history of Salsa dancing and music, and its current worldwide influence.

**PEA 51** 1 lect 2 lab 2 cr  
**Stress Management**

The lectures focus on discussions of psychological and behavioral approaches to stress management. The lab work combines a variety of relaxation and exercise techniques which teach the student to combat the negative physical effects of stress. The core of the course is student development of a personal stress management plan to best address each individual's needs. Additionally, active stress management skills will significantly benefit our students as they move forward into careers in Health Education and Therapeutic Recreation.

**Corequisite:** ENG 01 or RDL 01 if required.



**PEA 71, 72, 73** 1 cr hours arranged  
**Varsity Athletics**

Students may enroll in one or more of the following intercollegiate athletic courses and receive up to three credits for work in such courses. Admission to each course, which is based on tryouts and permission of the instructor, may be used to fulfill PEA requirements. Students opting to receive credit are required to participate in games, scrimmages, conditioning programs, practices, ongoing individual and team analysis, post-season tournament play, written assignments, team and individual statistics and a final examination. Students who wish to participate without course credit may do so.

Baseball	(Men)
Basketball	(Men & Women)
Indoor Track & Field	(Co-ed)
Outdoor Track & Field	(Co-ed)
Soccer	(Men)
Soccer	(Women)
Softball	(Women)
Tennis	(Men & Women)
Volleyball	(Women)
Wrestling	(Men)

**PEA 81** 2 rec 1 cr  
**Techniques of Self-Defense**

Introduction to the skills and techniques of martial arts; judo, karate, jiu-jitsu and aikido for the purpose of understanding their value for self-defense.

**PEA 82** 2 rec 1 cr  
**Introduction to Tai Chi Chuan**

Basic movements and beginner level forms of the Yang School of Tai Chi Chuan, ancient Chinese exercise system consisting of slow, rhythmical movements engaged in for health, meditation and self-defense by men and women of all ages. The movements are non-strenuous, easy to do and are intended to bring greater harmony to mind and body.

**REC 93** 3 rec 3 cr  
**Introduction to Therapeutic Recreation**

Provides an overview of therapeutic recreation programs provided in clinical or community settings for the physically, mentally, socially or emotionally disabled. This course examines basic concepts and models of service with field observations.

**Prerequisite:** ENG 01 and RDL 01 if required.

**Corequisite:** ENG 02 or RDL 02 if required.

**REC 94** 3 rec 3 cr  
**Recreation: Historical and Philosophical Perspective**

Reviews the historical development of recreation and leisure, and examines theories of play, recreation and leisure. It includes an exploration of the functions of organized recreation in the US today and enables individuals to develop a personal philosophy of leisure.

**Prerequisite:** REC 93

**REC 95** 3 rec 3 cr  
**Program Planning and Leadership in Recreation†\*****WFA 10** 2 lab 1 cr  
**Workplace First Aid Training**

Designed to provide individuals in the workplace with First Aid, CPR for Professional Rescuer and Automated External Defibrillator (AED) knowledge and skills necessary to recognize and determine basic emergency care for injuries and sudden illnesses until advanced medical personnel arrive and take over. This course will contain first aid skills and knowledge in blood borne pathogen exposure, treatment for wounds, broken bones, head and spinal injury and burns. This course will also include: CPR training in rescue breathing obstructed airway, and performance of cardiopulmonary resuscitation, Bag-Valve Mask, and two-rescuer skills.

**Corequisite:** ENG 01 and RDL 01 if required.

\* Offered during Day Session, Spring Semester.

\*\* Offered during Day Session and Saturdays.

† Not offered on a regular basis. Course descriptions available upon request.

**PHYSICS**

Department of Physics and Technology

**PHY 01** 4 rec 0 cr  
**Introduction to College Physics**

Fundamental laws and principles of classical physics; vectors, Newton's Laws, conservation principles, laws of thermodynamics. (Required for Engineering Science and Physics majors who have not had high school physics.)

**Prerequisite:** MTH 06 or equivalent

**Corequisite:** RDL 02 if required.

**PHY 10** 2 lect 1 rec 2 lab 4 cr  
**Concepts of Physics**

An elective course that introduces major ideas about the nature of the physical world and methods used in exploring them. Topics include motion and forces; work and energy; nature of light and sound; electricity, magnetism and applications to modern technology; and nature of the atom.

**Prerequisite:** MTH 03

**Corequisites:** RDL 02 and ENG 02.

**PHY 11** 2 lect 1 rec 2 lab 4 cr  
**College Physics I**

Introduction to principles and methods of physics. Topics include Newton's Laws of Motion, mechanics, heat, and sound. (Recommended for Liberal Arts and life science majors, including biology and psychology.)

**Prerequisite:** Intermediate Algebra or MTH 06.

**Corequisite:** ENG 02 or RDL 02 if required.

**PHY 12** 2 lect 1 rec 2 lab 4 cr  
**College Physics II**

Elements of electric circuits, electromagnetic theory, light, selected topics in atomic and nuclear physics.

**Prerequisite:** PHY 11.

**PHY 21** 2 lect 1 rec 2 lab 4 cr  
**Physics for Engineering Technology I**

Statics, kinematics, dynamics, work and energy, circular motion, and simple harmonic motion with special applications to problems in technology.

**Prerequisite:** Intermediate Algebra or MTH 06

**Corequisite:** ENG 02 or RDL 02 if required.

**PHY 22** 2 lect 1 rec 2 lab 4 cr  
**Physics for Engineering Technology II**

Fluid dynamics, thermodynamics, electricity and magnetism, optics, superconductors.

**Prerequisite:** PHY 21.

**PHY 24** 3 rec 3 lab 4 cr  
**Principles of General Physics**

Basic principles of general physics; survey of mechanics, heat, electricity, magnetism, optics and modern physics. (This course does not fulfill the physics requirement for curricula requiring a year or more of physics.)

**Prerequisite:** MTH 06 or equivalent.

**PHY 31** 2 lect 2 rec 2 lab 4 cr  
**Physics I**

Statics and dynamics of particles and rigid bodies; force and motion; energy and momentum; rotational motion, elasticity and simple harmonic motion. First semester of a three-semester sequence for students in Engineering or Computer Science (PHY 31, 32, and 33). Also recommended for Science or Mathematics majors in a Liberal Arts and Sciences transfer program.

**Prerequisites:** High School physics or PHY 01.

**Corequisites:** MTH 31 and ENG 02 and RDL 02 if required.

**PHY 32** 2 lect 2 rec 2 lab 4 cr  
**Physics II**

Hydrostatics and hydrodynamics; properties of gases; thermodynamics and kinetic theory of matter; wave motion; sound; electrostatics.

**Prerequisite:** PHY 31.

**Corequisite:** MTH 32.

**PHY 33** 3 lect 2 rec 3 lab/alt wks 4 cr  
**Physics III**

Electromagnetic theory; direct and alternating currents; electromagnetic waves; geometrical and physical optics; modern physics.

**Prerequisite:** PHY 32.

**Corequisite:** MTH 33.

**PHY 35** 3 lect 3 cr  
**Thermodynamics**

Introductory concepts and definitions of thermodynamics. Zeroth Law of thermodynamics and absolute temperature. Work and heat. First Law and applications. Second Law, Carnot theorem, entropy, thermodynamic state variables and functions, reversibility. Power and refrigeration cycles.

**Prerequisites:** CHM 11 and PHY 32.

**Corequisite:** MTH 33.

**PHY 40** 2 rec 2 lab 3 cr  
**Physics of Light and Sound**

A qualitative treatment of wave phenomena and associated properties of light and sound; reflection, refraction, image formation, optics of the eye, interference and diffraction sound, sympathetic vibrations, acoustical properties, laser applications, music. (Required for students in Media Technology.)

**Prerequisite:** MTH 03.

**PHY 51** 3 lect 2 lab 3 cr  
**Modern Physics**

Elementary quantum theory, quantum numbers, atomic shell structures and the periodic table; structure of solids, band theory of metals, insulators, semiconductors; x-rays and gamma radiation; relativity; nuclear physics.

**Prerequisite:** PHY 33.

**Corequisite:** MTH 34.

**PHY 61** 2 lect 2 lab 3 cr  
**Computer Methods and Programming for Applied Scientific Purposes**

Algorithms; introduction to computer systems and computer logic; programming languages (e.g., FORTRAN); data representation; computer solutions to problems in Engineering Science, Physics, and Mathematics, using numerical methods to include numerical integration, numerical differentiation, method of least squares; random number generation and probability.

**Prerequisites:** MTH 15 or MTH 31 and one semester of college physics, or permission of the department.

## ■ POLITICAL SCIENCE

Department of Social Sciences

**POL 11** 3 rec 3 cr  
**American National Government**

Survey of structure and activities of the national government: bases of present political system, pressure groups, political parties, elections, Congress, the President, the Supreme Court, and the protection and deprivation of individual rights.

**Corequisite:** ENG 02 or RDL 02 if required.

**POL 21** 3 rec 3 cr  
**State and Local Government**

How the American states and localities govern themselves. Relationships with the national government; governors, legislators, and judges; finances; metropolitan and local governments; public policy issues. Attention on special situations of New York City and State.

**Prerequisites:** POL 11 or permission of the department.

**POL 31** 3 rec 3 cr  
**Comparative Government\*****POL 51** 3 rec 3 cr  
**Urban Politics**

Politics and government of the American city: municipal political institutions, suburban and metropolitan government, relations with the state and federal governments, racial and ethnic politics, planning, crime and the police, public education.

**Prerequisite:** POL 11 or SOC 11 or permission of department.

\*Not offered on a regular basis. Course descriptions available upon request.

## ■ PSYCHOLOGY

Department of Social Sciences

**PSY 11** 3 rec 3 cr

### Psychology

Scientific method in the understanding of human behavior. Introductory study of growth and development, motivation, emotions and mental health, learning, intelligence and personality evaluation.

**Corequisite:** ENG 02 or RDL 02 if required.

**PSY 22** 3 rec 3 cr

### Social Psychology

Introduction to social psychology, focusing upon the nature of aggression and violent behavior; role of social influence in determination of deviant and conformist behavior, attitude change and decision making, affiliation, primary and group relationships, social norms and interrelationship of personality and culture.

**Prerequisite:** PSY 11.

**PSY 31** 3 rec 3 cr

### Abnormal Psychology

Major forms of psychological disorders, such as neuroses, psychoses, psychosomatic disturbances and character disorders; their origin, development and treatment.

**Prerequisite:** PSY 11.

**PSY 35** 3 rec 3 cr

### Dynamics of Human Motivation

Introduction to complex human motivation; emphasis on interaction of conscious and unconscious motives, inner conflict, and adaptive and maladaptive coping techniques. Applications to relevant contemporary problems, such as child rearing, psychotherapy, education and drug addiction.

**Prerequisite:** PSY 11.

**PSY 40** 3 rec 3 cr

### Life Span Development

This course enables students to understand human growth and development, from conception through late adulthood, in varied contexts and cultures. The emphasis is on the interaction between biological, cognitive and social changes over time, within families and within communities. Research data and key ideas, not only from psychology and sociology, but also from neuroscience, genetics, economics, and anthropology are included. The goal is to provide students with a solid understanding of the causes and manifestations of human behavior.

**Prerequisite:** PSY 11.

**PSY 41** 3 rec 3 cr

### Psychology of Infancy and Childhood

Major factors in psychological development from infancy through childhood; influence of the family Biological, cultural, and socio-economic factors in producing normal and abnormal intellectual and emotional growth.

**Prerequisite:** PSY 11.

**PSY 42** 3 rec 3 cr

### Psychology of Adolescence and Adulthood

Study of development from adolescence to adulthood with regard to implications for self-realization, love, marriage, vocation, parenthood, retirement and aging. Changing attitudes and values about sex, drugs, aging and politics are explored in regard to different stages of adult development.

**Prerequisite:** PSY 11.

**PSY 43** 3 rec 3 cr

### Psychological Development During Maturity and Aging

Normal and abnormal psychological development during adulthood and old age. Emphasis on dynamics of the life cycle; theories of the mature personality; forces affecting continuing growth of the adult personality and intellect; biological, social and cultural determinants of aging, and influence of normal and abnormal aging processes on perception, psychomotor skills, learning, intelligence, and personality.

**Prerequisite:** PSY 11.

**PSY 44** 3 rec 3 cr

### Psychology of Women

Development, personality characteristics, and needs of women; similarities to and differences from men. Psychological aspects of uniquely feminine experiences. Issues are examined from a theoretical as well as an empirical perspective.

**Prerequisite:** PSY 11.

**PSY 51** 3 rec 3 cr

### Principles of Group Dynamics

Introduction to theory of group behavior, including analysis of the psychological structure of groups, cohesive and disruptive forces, conflict and adjustment in group relationships and relationship of groups to society.

**Prerequisite:** PSY 11.

**PSY 71** 3 rec 3 cr

### Clinical Techniques of Assessment: The Interview

Interpersonal approach in assessing psychological problems of individuals and minigroups. Practical experience with clinical interview techniques; psychological evaluation of data and case history write-ups. Methods of referral to appropriate professional and community resources are discussed.

**Prerequisite:** PSY 11.

**PSY 81** 3 rec 6 hrs field work 3 cr

### Field Work and Seminar in Psychology I

Supervised field work or independent research. Required seminar integrates practical experience with coursework.

**Prerequisite:** 9 credits in the social sciences (Economics, Political Science, Psychology, Sociology) and/or permission of the department; 6 of these credits must be in Psychology.



## ■ RADIOLOGIC TECHNOLOGY

*Department of Nursing and Allied Health Sciences*

All Radiologic Technology (CLE and RAD) courses are open only to Radiologic Technology majors. CLE courses are given at Our Lady of Mercy Medical Center, Montefiore Medical Center, New York Presbyterian Medical Center.

### **CLE 11** **30 days 1 cr** **Clinical Education I**

Students function as learning members of the hospital's radiology department under laboratory conditions. Experience in patient preparation, selection of proper technical factors, administration of ionizing radiation for diagnostic examination with appropriate radiation protection control. Close supervision to develop and evaluate students' clinical skills. Film Evaluation included.

**Prerequisites:** BIO 23, CMS 11.

**Corequisites:** RAD 11, 12, 13, 14, 15, 16.

### **CLE 21** **30 days 1 cr** **Clinical Education II**

Continuation of Clinical Education I. Film Evaluation included.

**Prerequisite:** CLE 11.

### **CLE 31** **48 days 1.5 cr** **Clinical Education III**

Continuation of Clinical Education II. Film Evaluation included.

**Prerequisite:** CLE 21.

### **CLE 41** **30 days 1 cr** **Clinical Education IV**

Continuation of Clinical Education III. Film Evaluation included.

**Prerequisite:** CLE 31.

### **CLE 51** **30 days 1 cr** **Clinical Education V**

Continuation of Clinical Education IV. Film Evaluation included.

**Prerequisite:** CLE 41.

### **CLE 61** **48 days 1.5 cr** **Clinical Education VI**

Continuation of Clinical Education V. Film Evaluation included.

**Prerequisite:** CLE 51.

### **RAD 11** **2 lect 3 lab 3.5 cr** **Introduction to Radiologic Technology**

Orientation course includes history of radiology; major advances; radiologic technology as a health profession specialty; history and organization of hospitals. *Medical Ethics and Law*: scope and nature of moral, legal and professional ethics. Professional guidelines of confidentiality; interpersonal relationships and medicolegal considerations. *Medical Terminology*: study of written and spoken language of medicine. Common terms used in diagnostic radiology education.

**Prerequisite:** Completion of Pre-RT Sequence.

### **RAD 12** **1 lect 3 lab 2.5 cr** **Radiographic Exposure I**

Study of formation of the radiographic image with emphasis on production of quality radiographs. Topics include radiographic exposure factors; density, contrast, recorded detail and distortion; devices to improve radiographic quality such as grids, and pathology affecting radiographic exposure factors.

**Prerequisite:** MTH 13.

**Corequisite:** CLE 11.

### **RAD 13** **2 lect 3 lab 3 cr** **Radiographic Procedures I**

Covers detailed information on various standard positions of structures and organs of the body; practical instruction and application in laboratory and clinical environment. Film Evaluation included.

**Corequisites:** CLE 11, RAD 11, 15.

**RAD 14** 2 lect 1 cr  
**Radiographic Processing**

History and development of x-ray film and dark-room accessories; chemical constituents of processing solutions and their functions; theory of the photographic process; radiographic film artifacts and their causes.

**Corequisite:** RAD 12.

**RAD 15** 1 lect 2 lab 2 cr  
**Topographic Anatomy I**

Structure and function of human anatomy in all body planes with emphasis on the topographic mode. Film Evaluation included.

**Prerequisite:** BIO 23.

**Corequisite:** RAD 13.

**RAD 16** 1 lect 3 lab 2.5 cr  
**Patient Care and Pharmacology**

Provides students with basic concepts of patient care, including consideration of physical and psychological needs of patient and family. Routine and emergency patient care procedures as well as infection control procedures and Universal Precautions, drug interactions and pharmacology. Lab practice is integrated to enhance the development of patient care skills.

**Prerequisites:** BIO 23 or equivalent; MTH 13 or equivalent.

**RAD 22** 1 lect 3 lab 2.5 cr  
**Radiographic Exposure II**

Continuation of RAD 12. Examination of technique guides, technical conversions, AEC, contrast, recorded detail distortion and effects of pathology on technique.

**Prerequisite:** RAD 12.

**Corequisite:** CLE 21.

**RAD 23** 2 lect 3 lab 3 cr  
**Radiographic Procedures II**

Continuation of RAD 13. More detailed and complex positions of the structures and organs of the body; film evaluation, practical instruction and application in the laboratory and clinical environment.

**Prerequisites:** RAD 12, 13, 14, 15, 16.

**Corequisite:** RAD 25.

**RAD 24** 2 lect 2 cr  
**Radiation Protection**

Enables student radiologic technologists to recognize the need for good radiation protection procedures which provide minimum exposure to patients and personnel. Topics include interactions of radiation with matter; units and measurement of radiation; maximum permissible dosages; methods for minimizing operator and patient exposure.

**Prerequisite:** RAD 11.

**RAD 25** 1 lect 1 cr  
**Topographic Anatomy II**

Continuation of RAD 15. Structures and function of human anatomy in all body planes with emphasis on the skull and spine. Film Evaluation included.

**Prerequisite:** RAD 15.

**Corequisite:** BIO 24.

**RAD 32** 1 lect 2 lab 2 cr  
**Imaging Modalities**

Study of various imaging systems and their application in radiography. Various recording media and techniques are discussed. Some imaging systems described are Mobile Units, Image Intensification, Video Tube and Recorders, CT, Digital Imaging, and MRI.

**Prerequisites:** RAD 22, 23, 25.

**RAD 33** 1 lect 3 lab 2 cr  
**Radiographic Procedures III**

Radiographic positioning of specialized procedures in radiography, the equipment, contrast media used and general indications for each examination. Digestive system; urinary system; female reproductive system; lymphatic system; myelography; cerebral angiography; interventional radiography; arthrography, and mammography will be discussed. Film Evaluation included.

**Prerequisites:** RAD 23, 25, CLE 21.

**Corequisites:** RAD 32, 34.

**RAD 34** 1 lect 2 lab 2 cr  
**Radiographic Pathology**

Survey of medical and surgical diseases to acquaint the student with changes caused by disease which relate to radiography. Emphasis on pathogenesis, signs, symptoms, diagnosis and treatment. Film Evaluation included.

**Prerequisite:** BIO 23, 24.

**RAD 42** 2 lect 2 cr  
**Fundamentals of Radiation Biology**

Comprehensive study of the radiation effects on cells including direct and indirect action of ionizing radiation; damage induced by free radicals in DNA; interpretation of survival data; radiation genetics; radiation effects on embryos; delayed effects; radiation safety and health physics.

**Corequisite:** RAD 71.

**RAD 43** 3 lab 1 cr  
**Quality Assurance**

Topics include concepts of a quality assurance program, state and federal regulations, sensitometric monitoring, film-screen contact, protective device integrity, radiographic illuminators, kVp accuracy, timer accuracy and mAs reciprocity. Mammography QA will be discussed.

**Prerequisites:** RAD 22, 32.

**Corequisite:** RAD 71.

**RAD 71** 1 lect 3 lab 2 cr  
**Radiation Physics**

Elements of atomic and nuclear physics, interaction of radiation with matter; radioactivity, half-life; elements of health physics.

**Prerequisite:** MTH 13.

\*RAD and CLE courses are open only to students with full matriculation status in the Radiologic Technology curriculum. The minimum acceptable grade is C+ in RAD courses, and C+ in CLE courses.

Students who achieve less than the minimum grade in one RAD or CLE course may not register for any RAD or CLE courses for the next semester. They may repeat the course the following year. Students may only attempt a RAD or CLE course twice.

Students who achieve less than the minimum grade in two or more RAD or CLE courses are terminated from the Radiologic Technology program, but not from the college.

## ■ READING

*Department of Education and Reading*

### RDL 01 5 rec 0 cr Basic Reading Skills

Individualized program in fundamental reading skills with emphasis on phonics and syllabication, word structure, and sentence and paragraph analysis on student's instructional level. Required as indicated by placement scores.

### RDL 02 5 rec 0 cr Reading and Study Skills

Individualized program designed to develop reading and study skills necessary for success in college-level work. Vocabulary development, comprehension skills, textbook techniques, and library and research techniques.

**Prerequisite:** RDL 01 or as required by placement scores.

### RDL 05 3 rec 0 cr Basic Reading for ESL Students

An introductory program designed to help beginning ESL students expand their reading knowledge of English through extensive and intensive reading practice. Development of techniques to facilitate comprehension of words, sentences, and paragraphs for increased reading speed and improved comprehension.

**Prerequisite:** Registration only by Department placement.

### RDL 11 2 rec 2 cr College Reading and Study Skills

Advanced course to increase proficiency in reading and study strategies. Student and instructor jointly develop an individual program based on the student's expressed interests and diagnosed needs. The program might focus on any combination of the following: rate of reading; test-taking techniques; reading in the content areas; textbook reading and study techniques, critical and interpretive reading. (Required as indicated by placement scores, and/or recommended as an elective.)

### RDL 21 3 rec 3 cr Reading in the Sciences and Technologies

Advanced reading and study skills to obtain, utilize, and retain information from texts in the sciences and technologies. Application of scientific and technical vocabulary, critical and interpretive comprehension, and study and test taking skills will be related to students' curriculum needs and interest.

**Prerequisite:** RDL 02 if required.

## ■ SECRETARIAL STUDIES

*Business and Information Systems Department*

### COM 31 3 rec 3 cr Business Communications

Effective listening, reading, speaking, and writing in and for business, including composition of correspondence and reports at the computer. Research is necessary for a term report.

**Prerequisite:** ENG 11, KEY 12.

**Corequisite:** KEY 13.

### SEC 35 4 rec 2 cr Medical Office Procedures and Management

Perform secretarial and medical assistant responsibilities in private physicians' offices, hospitals, and medical laboratories. Cultivation of desirable personal traits and attitudes of the medical office assistant. Office projects include case histories, medical reports, filing systems, and recordkeeping. Development of skill in transcribing medical reports.

**Prerequisites:** KEY 13, WPR 11, or department permission.

**Corequisites:** BIO 47.

### SEC 41 4 rec 2 cr Office Procedures

Integration of secretarial skills and cultivation of desirable personal traits and attitudes of a secretary. Realistic secretarial office projects including case study analyses.

**Prerequisites:** COM 31, KEY 13.

### SEC 45 2 rec 2 cr School Records and Accounts

Responsibilities of the school secretary: preparation of accident reports, organization and payroll, records of school personnel, supplies and textbooks, accounts of school monies; school headquarters forms.

**Corequisite:** ENG 02 or RDL 02 if required.

### SEC 47 2 rec 2 cr Educational Problems of School Secretaries I

### SEC 48 2 rec 2 cr Educational Problems of School Secretaries II

Public relations in modern public education; organization of New York City school system according to by-laws, manuals, directives; problems related to mental hygiene, student welfare and public guidance, health and safety; simple methods of research and educational statistics; human relations.

**Corequisite:** ENG 02 or RDL 02 if required.

## ■ SECURITY MANAGEMENT

### SCR 11 3 rec 3 cr Introduction to Security

An introduction to the historical, philosophical and legal basis of the security field. Overview of school and campus security, hospital security, housing security, etc. Security organizations, their policies and personnel are evaluated. Emphasis is placed on creating security awareness, relations with other organizations and security's place in the corporate structure.

**Prerequisite:** ENG 02 or RDL 02 if required.

## ■ SOCIOLOGY

*Department of Social Sciences*

### SOC 11 3 rec 3 cr Sociology

Introduction to the scientific study of human life as group life. Culture and personality; courtship, marriage and family; religious behavior; education and communication; theories of social stratification and social change.

**Corequisite:** ENG 02 or RDL 02 if required.

**SOC 31** 3 rec 3 cr  
**Race and Ethnic Relations**

Characteristics of American ethnic minorities and religious groups, including theories explaining prejudice and discrimination. Intergroup relations, with particular reference to the New York metropolitan area, and techniques for relieving problems in human relations.

**Prerequisite:** SOC 11.

**SOC 32** 3 rec 3 cr  
**Sociology of the City\*****SOC 33** 3 rec 3 cr  
**Marriage and the Family**

Introduction to the study of the family as a social institution. Evolution of form and functions of the family and how its structure is shaped by forces in society. Significance of family as a socialization agent, courtship and the romantic love complex, women's roles and changing family structure, minority culture families in American society and consideration of the future of the family.

**Prerequisite:** SOC 11.

**SOC 34** 3 rec 3 cr  
**Social Deviance**

Explores what is regarded as deviant within a society, with emphasis on criminality and mental illness. Deviance from the perspective of the deviant, e.g., the process by which the initial deviance becomes a career or master status. Deviance from the perspective of society, its social structure, norms and sanctions relevant to deviance, and functions or dysfunctions served by those committing acts of deviance.

**Prerequisite:** SOC 11.

**SOC 35** 3 rec 3 cr  
**Introduction to Social Work**

Nature of social work and its functions; family casework, child welfare, psychiatric and medical social work, correctional services, public welfare and community welfare organizations.

**Prerequisite:** SOC 11 or PSY 11 or permission of instructor.

**SOC 37** 3 rec 3 cr  
**Class and Power in American Society**

Examines social inequality as it impinges on concrete lives of people in society, with focus on American society. Deals with social stratification, social class, status, race, ethnicity, gender, prejudice and discrimination.

**Prerequisite:** SOC 11 or permission of department.

**SOC 38** 3 rec 3 cr  
**Social Advocacy**

Introduction to roles and problems of advocates in the social services system; nature, need and processes of advocacy; legal administrative aspects of social services programs (social security, welfare, family court); advocating rights of special groups (handicapped, poor, youth, aged).

**Prerequisite:** POL 11 or SOC 11 or department permission.

**SOC 92** 3 rec 3 cr  
**Religion and Society\***

\* Not taught on a regular basis. Course descriptions available upon request.

**SPANISH**

Department of Modern Languages

**SPN 10** 4 rec 4 cr  
**Spanish for Heritage Speakers**

An intensive introductory course with emphasis on reading and writing for students of hispanic heritage born and/or educated in the United States who demonstrate aural comprehension. The course will consist of Spanish grammar, selected readings, and essay writing.

**Prerequisite:** Placement based on department examination result.

**SPN 11** 4 rec 4 cr  
**Beginning Spanish I**

Pronunciation; language structure; conversation and reading of simple texts; dictation. Audio laboratory practice.

**SPN 12** 4 rec 4 cr  
**Beginning Spanish II**

Continuation of SPN 11. Language structure; conversation; reading of elementary literary texts; dictation.

**Prerequisite:** SPN 11 or placement test.

**SPN 13** 4 rec 4 cr  
**Intermediate Spanish**

Advanced language structures; conversation; reading, translation and discussion of modern texts; composition.

**Prerequisite:** SPN 12 or placement test.

**SPN 14** 4 rec 3 cr  
**Practical Writing Skills for Spanish-Speaking Students**

Readings in Spanish on current events or model personalities used as a foundation for the development of reading, writing and critical thinking skills. Students learn techniques to identify the thesis of a written work, to distinguish the thesis from sustaining facts, and to write a summary. Students also apply the learning skills and structures to other genres of writing, such as the creation of a curriculum vitae, reviewing theatrical works, doing expository writing, and business letters.

**Prerequisite:** LAN 15 in the ESL Sequence.

**SPN 15** 4 rec 4 cr  
**Spanish for Urban Conversation and Careers I**

*For non-Spanish-speaking students.*

Intensive conversation course emphasizing practical and realistic situations including business, community and civil service areas. Use of audio lab required.

**SPN 16** 4 rec 4 cr  
**Spanish for Urban Conversation and Careers II**

Continuation of SPN 15. Conversation based on social and work situations. Use of audio lab required.

**Prerequisite:** SPN 15 or placement test.

**SPN 17** 4 rec 4 cr  
**Advanced Spanish Conversation**

Continuation of SPN 16. Students participate in dialogues and conversations related to contemporary problems and everyday situations to improve conversational skill. Course conducted in Spanish.

**Prerequisite:** SPN 13 or 16 or placement test.

**SPN 18** 4 rec 4 cr  
**Elementary Spanish for Nurses  
 and Hospital Personnel I**

*For non-Spanish-speaking students.*

Basic Spanish pronunciation, intonation and sentence structure; relevant medical terminology; idiomatic and colloquial expressions. Model dialogues on taking medical history; routine medical examination; diet and nutrition; nursing care; treatment instructions; pediatrics; cardiology; and others. Additional vocabulary according to the student's interests and field of medical specialization.

**SPN 19** 4 rec 4 cr  
**Elementary Spanish for Nurses  
 and Hospital Personnel II**

Review and continuation at a higher level of pronunciation, speaking and understanding. Additional vocabulary in new medical situations such as admissions, X-rays, and pregnancy.

**Prerequisite:** SPN 18 or placement test.

**SPN 20** 3 rec 3 cr  
**Advanced Spanish Composition  
 and Creative Writing**

Style illustrations with literary texts, text analysis, reading for comprehension, paragraph construction, imitation of models, expository writing, translation of literary texts, thematic discussions, stylistic discussions, written reports on research.

**Prerequisite:** SPN 13 or 17 or placement.

**SPN 21** 4 rec 4 cr  
**Spanish Language and Culture**

A literary and historical study of Spanish culture; develops basic language skills. Class discussions on social, historical and artistic values of Spain, past and present. Course conducted in Spanish.

**Prerequisite:** SPN 13 or 17 or placement test.

**SPN 22** 4 rec 4 cr  
**Latin-American Language and Culture**

Readings in Latin-American literature. Representative texts on Latin-American and Caribbean culture, civilization, history and tradition. Conversation; literary analysis and interpretation. Course conducted in Spanish.

**Prerequisite:** SPN 13 or 17 or placement test.

**SPN 23** 3 rec 3 cr  
**19th-Century Spanish Literature:  
 Romanticism and Realism\***

**SPN 24** 3 rec 3 cr  
**Don Quijote and Other Cervantes Masterpieces**

Reading, discussion, analysis and written reports on selections from the original text of *Don Quijote*. Selections from Cervantes' *Novelas Ejemplares*. Course conducted in Spanish.

**Prerequisite:** SPN 13 or 17 or placement test.

**SPN 25** 3 rec 3 cr  
**Generation of 1898**

Literary analysis of selections from the principal writers of the movement. Reading, discussion, oral and written reports. Course conducted in Spanish.

**Prerequisite:** SPN 13 or 17 or placement test.

**SPN 26** 3 rec 3 cr  
**Spanish for Business Communication**

The purpose of this course is to give advanced-level students a foundation in Spanish business vocabulary, economic and cultural aspects of business in Spanish-speaking countries, and situational practice that will help prepare them for success in today's Spanish-speaking business world. Course conducted in Spanish.

**Prerequisites:** Placement based on department examination result.

**SPN 28** 3 rec 3 cr  
**Interpreting and Translation Skills  
 for Legal Personnel**

Basic skills required for bilingual personnel serving the Hispanic community in the metropolitan area. Advanced Spanish course which emphasizes translating and interpreting for legal personnel. Students should be bilingual, fluent in both English and Spanish.

**Prerequisites:** RDL 02 or ENG 02 if required, and SPN 13 or placement.

**SPN 30** 4 rec 4 cr  
**Puerto Rican Literature and Culture I**

Survey of Puerto Rican history, culture and literature until 1880. Reading, discussion, oral and written reports based on representative Puerto Rican authors. Course conducted in Spanish.

**Prerequisite:** SPN 13 or 17 or placement test.

**SPN 31** 4 rec 4 cr  
**Puerto Rican Literature and Culture II**

Continuation of SPN 30. Survey of Puerto Rican history, culture and literature from 1880 to the present. Reading, discussion, oral and written reports based on representative Puerto Rican authors. Course is conducted in Spanish.

**Prerequisite:** SPN 13 or 17 or placement test.

\*Not offered on a regular basis. Course descriptions available upon request.

## ■ TAXATION

*Business and Information Systems Department*

**TAX 11** 3 rec 3 cr  
**Introduction to Taxation**

Study of the current Federal, New York State and New York City income tax laws and regulations: concepts of taxable gross and net income, deductions and exemptions as applied to various classes of individual taxpayers. Preparation of individual income tax returns on government forms.

**Prerequisites:** BUS 11 and ACC 11 or permission of the department.

## ■ TELECOMMUNICATIONS

*Department of Physics and Technology*

**TEC 11** 3 rec 2 lab 4 cr  
**Voice Communications**

Introduction to techniques, principles, and terminology of voice telecommunications. Public and private telecommunication networks are examined. Telecommunication equipment, switching and transmission technology are demonstrated. Frequency spectrum modulation schemes and multiplexing techniques are explored. Lectures, interactive learning demonstrations. Laboratory exercises required.

**Corequisite:** ELC 25.

**TEC 21** 3 rec 2 lab 4 cr  
**Data Communications**

Introduction to techniques, principles, and terminology of data communications. Public and private networks are examined. Data communication equipment multiplexing and interactive learning, demonstrations. Laboratory exercises required.

**Prerequisite:** ELC 25.

**Corequisite:** TEC 11.

**TEC 31** 3 rec 2 lab 4 cr  
**Local Area Networks**

Introduction to the technology of local area networks (LANs). Topologies, transmission media, network interfaces, and the access methods are examined. Shared resources and interconnecting of LANs are explored. Lectures, interactive learning, demonstrations are employed. Laboratory exercises are required.

**Prerequisite:** TEC 21.

**TEC 41** 3 rec 2 lab 4 cr  
**Advanced Topics**

Survey of current and emerging technologies in telecommunications. Lectures, interactive learning, demonstrations, and site visits. Laboratory exercises required.

**Prerequisite:** TEC 21.

**Corequisite:** TEC 31.

**WORD PROCESSING**

*Business and Information Systems Department*

**WPR 11** 5 rec 3 cr  
**Machine Transcription I**

Development of the ability to transcribe simple dictated material in preparation for employment as a transcriptionist.

**Prerequisite:** KEY 11 or department permission

**Corequisites:** ENG 11, KEY 12,

**WPR 12** 5 rec 3 cr  
**Machine Transcription II**

Development of the ability to transcribe higher level dictated material for extended time periods.

**Prerequisites:** KEY 12, WPR 11.

**Corequisite:** KEY 13.

**WPR 20** 3 rec 3 cr  
**Introduction to Office Automation**

Principles and language of office automation, responsibilities of staff positions, applications within office environments and support services, nature of work flow—how information originates, is processed, and trends in office automation.

**WPR 21\*** 3 rec 3 cr  
**Information Processing Applications and Administration**

Administrative processes involved in the operation of a word processing environment. Emphasis on understanding the work flow and multiple tasks performed in a word processing environment.

**Prerequisite:** KEY 11.

**Corequisite:** KEY 12.

**WPR 22** 3 rec 3 cr  
**Information Processing Office Simulation**

Application of the knowledge learned in WPR 21 in a word processing environment which simulates an actual business operation. Each student produces tasks that are typically performed in word processing environments.

**Corequisite:** KEY 13 or permission of department.

**WPR 23** 3 rec 3 cr  
**Supervision and Administration of Office Automation**

Students develop ability to function as supervisor or administrator in a broad-based office automation environment. Principles, procedures, and techniques of supervision and administration. Concentration in scheduling and coordinating, motivational techniques, technical areas (systems), decision making, time management skills, personnel evaluation and training programs are included.

**Prerequisite:** WPR 20.

**WPR 24** 3 rec 3 cr  
**Introduction to Desktop Publishing**

Learn how to use a personal computer to produce professional quality business or personal documents with desktop publishing software. Understand concepts and practical applications of desktop publishing. Integrate text with graphic elements such as charts, graphs and tables to electronically produce flyers, reports, forms, price lists, letterheads, invitations and resumes. Hands-on training relating to input, composition, and output of finished documents.

**Prerequisites:** RDL 02, RDL 11, MTH 03 if necessary; ENG 11; KEY 10 or KEY 11 or permission of department; WPR 21 or WPR 31 or permission of department.

**WPR 31** 2 rec 2 lab 3 cr  
**Microcomputer Word Processing Applications**

Provides instruction on the operations of a word processing package on a microcomputer. Students will be able to perform operations such as inputting, revising, outputting, storing, retrieving, search and replace, centering, copying and moving, and formatting.

**Prerequisites:** KEY 10 or permission of department; ENG 01, RDL 01.

**WPR 41** 3 rec 3 cr  
**Introduction to Records and Information Management**

An overview of recordkeeping systems in computerized and noncomputerized environments. Topics include why and how information systems function, how information is stored in various media types, and utilization of a records management software program.

**Prerequisites:** RDL 02, MTH 01, ENG 11, KEY 12, WPR 21.\*

\*WPR 21 may be waived with the approval of Curriculum Coordinator.