

SCHOOL OF HEALTH TECHNOLOGY AND MANAGEMENT



School of Health Technology and Management

Dean: Craig A. Lehmann

Associate dean: Deborah T. Firestone

Associate dean for graduate studies: Richard W. Johnson

Assistant deans: Eleanor Kra, administration; Karen Joskow Mendelsohn, academic and student affairs

American demographics, economics and technological advances in diagnostics, treatment and therapy have combined to create an environment where patients are diagnosed earlier; are more likely to survive disease or trauma; live longer; participate in ambulatory based treatment; and are asked to take a larger, and are more participatory role in their own healthcare.

As advances in science and information technology collide with a new consumerism and cry for reform of systematic healthcare processes, educators find themselves in the midst of transition as we move from one healthcare model to another. Whatever the new healthcare model evolves into, you can be assured that the School of Health Technology and Management will provide its graduates with the necessary skills to practice their profession.

The school is organized into four divisions: diagnostic and therapeutic sciences, rehabilitation sciences, clinical sciences and the graduate division of healthcare policy and management.

Presently the School offers baccalaureate, master's and doctoral degrees in clinical and non-clinical areas that include clinical laboratory sciences, cytotechnology, health science, occupational therapy, physician assistant, physical therapy, respiratory care, and health care policy and management. These programs are full-time entry-level except for the part-time post professional Physical Therapy (transition DPT) and the graduate health care policy and management programs which are for healthcare professionals.

Students in the professional programs pursue core and basic science curricula, as well as the professional courses required for competence in their specific profession. Graduates have the benefit of broad orientation to the health field, to the life and behavioral sciences, and to research, which the core, basic science and professional programs provide.

Students can also enroll in non-degree, non-credit certificate programs in EKG, EMT-paramedics, phlebotomy and polysomnography.

Goals and Objectives

The school is committed not only to the education and training of highly competent health professionals, but also to preparing its graduates to assume leadership roles in a variety of health-care settings.

The school maintains a strong commitment to the team approach to healthcare which provides for innovative programs utilizing an interdisciplinary core curriculum, ongoing clinical experience and an active program in continuing professional education. On the graduate level, there is a new emphasis on health policy, community health education and healthcare management.

Professional Program Admission

Students seeking admission to the clinical laboratory sciences, cytotechnology, occupational therapy, physical therapy, physician assistant and respiratory care programs in the school, either from the general program at Stony Brook or from other

institutions, must be specifically accepted to the school and to the program they have selected.

Stony Brook students may declare a new major in Health Science, that leads to a bachelor of science degree. Health Science majors will spend three years on west campus taking liberal arts, science and health-related courses and will fulfill all D.E.C. requirements. The senior year will be spent enrolled in classes in the Health Sciences Center.

Admission Requirements

Candidates for admission to full-time upper-division study in clinical laboratory sciences, cytotechnology, occupational therapy, physician assistant and respiratory care must have a minimum cumulative average of 2.5. In addition, the completion of 57 semester hours of credit including three credits in English composition, 6 credits in social and behavioral sciences, 6 credits in arts and humanities and 6 to 8 credits in natural science is required. (Refer to "Requirements for the Bachelor's Degree" at the beginning of this Bulletin for specific areas of study to satisfy these requirements.) Candidates for admission to the Physical Therapy program must complete a Baccalaureate degree. Preference is given to applicants with a grade point average of 3.0 or higher. Transfer credit is given for course work completed with grades of C or higher.

The individual programs have additional requirements. Please check the admission requirements for entrance to the specific program to which admission is sought. Refer to "Health Sciences Center Admissions" at the beginning of this Bulletin for application information. Technical standards for professional programs are available upon request.

Selection Factors and Procedures

Programs within the school base selection of students on several factors. Experience in the particular field or in the health-care system, evidence of ability to succeed academically and demonstrated concern for human beings are considered as primary selection factors. These factors are judged by letters of recommendation, personal interviews, transcripts and by personal statements from the applicants.

Admission to the school is determined by the school's Admissions Committee, which is composed of a faculty representative from each department and two student representatives. The Admissions Committee of each program reviews the candidates' transcripts, records and application forms, conducts interviews and makes recommendations to the school's Admissions Committee. Offers of admission are made in order of merit. Although applicants may meet minimum admission requirements, they might not be offered admission since places are limited by available space.

Recommended Freshman and Sophomore Curricula

The general policy of the school is to avoid to the greatest extent possible specific prerequisite course requirements. The purpose of this policy is to permit flexibility in evaluating the records of candidates for admission. Emphasis is placed upon the extent to which the student is prepared through training and experience to pursue the program.

It is recommended that students interested in a career in the health professions choose a sufficient number of courses in the physical and natural sciences to develop a broad understanding of these fields of study. At least one course in English composition, as well as a spectrum of courses in the humanities and social and behavioral sciences, is required.

The Allied Health Professions Admission Test includes a section on mathematics. In addition, a writing diagnostic test is

given to all new students during orientation.

In the case of a few programs, rigid accreditation criteria force the school to specify special prerequisite course work. Prospective students should consult the information which is given in subsequent pages of the Bulletin relating to the particular program in which they are interested for special recommendations or prerequisite requirements. These are listed as "Admission Requirements" under the heading for the specific program in the following pages.

Faculty members of the school are available to serve as advisers to freshmen, sophomores and any other undergraduates who aspire to programs in the school. Consult the assistant dean for student affairs for assistance in acquiring a faculty adviser. Undergraduate students interested in applying to an upper-division program are encouraged to seek faculty advisement early.

Health Care Policy and Management Program Admission

The Master's Program in Health Care Policy and Management is offered on either a full-time or part-time basis, with the number of candidates accepted strictly limited to permit close student-faculty interaction. Candidates for admission to graduate study are expected to hold a bachelor's degree from an accredited institution of higher learning. A "B" average in undergraduate study is required for admission to the graduate program; however, other factors indicating competence and promise are taken into consideration, including Graduate Record Examination (GRE) scores, letters of recommendation, personal interviews, and personal statements by the applicant. In addition, each candidate must hold appropriate professional status (e.g. registration, certification or licensure) in a health field and have practiced in that field for at least one year on a full-time basis (or the equivalent in part-time practice). Candidates must indicate an intention to pursue concentrations in health care management, community health education and health policy.

Students with an unsatisfactory academic history who show evidence of ability in other ways may petition for conditional admission in order to gain an opportunity to prove their ability to successfully carry the course work in the first term of graduate study in the school.

For application procedures, see the section entitled "Health Sciences Center Admissions" at the beginning of this Bulletin.

Physical Examination and History

Documentation of satisfactory health status, prior to beginning classes, is required. Documentation must include a health history and physical examination report completed by a licensed physician (M.D. or D.O.), registered physician assistant or registered nurse practitioner, not earlier than six months prior to entry into the school; a report of chest x-ray or patch test for tuberculosis; and a report of measles, mumps, rubella, and varicella antibody titer completed within the same period. A note certifying completion of the examination is not acceptable; a full examination report is required. This documentation is submitted to the student health service as part of the student's health record. The school requires an updated health assessment at the beginning of each year. Additional requirements are specified in the "Physical Examination Policy" section of this Bulletin.

Insurance

Students admitted to the school are required to purchase liability insurance prior to participation in clinical assignments. (Costs vary by program from \$15-\$65 per year.)

Clinical sites also require students to have proof of health insurance before beginning clinical rotations. It is the individual student's responsibility to arrange appropriate coverage.

Financial Aid

Financial aid, part-time employment, etc., is available in limited amounts. Students may qualify for some of the general support programs administered by the Health Sciences Center office of student services. For advice and detailed information, contact the office of student services, Health Sciences Center. (See the "Financial Assistance" section of this Bulletin.)

Academic Standing

The School of Health Technology and Management recognizes the necessity for knowledge as well as superior behavioral, ethical and clinical standards. Students are evaluated on knowledge, professional competence and skill, adherence to professional codes of ethics, sensitivity to patient needs, ability to work with and relate to peers and other members of the health care team, attitude, attendance, punctuality and professional appearance. These standards foster the team concept of health care and have been established to protect the rights of the patients and communities served by the Health Sciences Center. Failure to demonstrate these important qualities will be reflected in a student's grade.

Undergraduate students must maintain an overall grade point average of 2.0 and a 2.5 minimum average in required professional courses to remain in good standing. Any student who earns a grade point average below 2.0 overall or 2.5 in professional courses will be placed on probation for the following period and terminated if his/her average does not attain those levels at the end of the probationary period. Graduate students must maintain an overall grade point average of 3.0 to remain in good standing. Normally, a student on probation will not be permitted to participate in the required periods of full-time clinical practice. Specific programs may have additional academic criteria or requirements. Refer to individual programs for details.

Grading Policy

The School of Health Technology and Management follows the grading policies stated in the front of this Bulletin with the exceptions that 1) the P/NC, R, and S/U grades are not used; 2) S/F may be used in specifically designated courses where finer grading distinctions are impractical; and 3) D grades may be given to graduate students in graduate level courses for which the credit is counted in determining the grade point average, but no credit is granted toward the Master of Science degree.

Dean's List

A Dean's List of superior undergraduate students is compiled at the end of the fourth and eighth modules of each academic year. To be eligible for the Health Technology and Management Dean's List, students must be matriculated full-time in a baccalaureate program of the school and have a minimal grade point average of 3.60 (seniors) or 3.45 (juniors).

Academic Dishonesty

Academic dishonesty shall be defined as misrepresentation of authorship or in any fashion falsifying part or all of any work submitted or intended to be submitted for academic credit. Such misrepresentation or falsification includes, but is not lim-

ited to, the use of supportive documentation, mechanical aids or mutual cooperation not authorized by the faculty.

The principles of academic dishonesty also apply to those courses taken during the clinical or internship phases of any program which are taken for credit or otherwise required for completion of a program. Owing to the critical nature of such requirements and student responsibility for the welfare of patients and institutions providing medical care, academic dishonesty is further defined to include the falsification of patient or institutional records, knowingly violating accepted codes of professional ethics or knowingly engaging in activities which might endanger the health or welfare of patients or resident institutions.

The penalty for any substantiated act of academic dishonesty shall be expulsion from the school, unless the dean and the chair of the department in which the accused is a student concur with a Committee on Academic Standing recommendation for a modified penalty.

Appeals

Students may appeal probation or termination by requesting reconsideration of this decision by the dean.

All other academic regulations in effect at Stony Brook University and in the Health Sciences Center ordinarily apply to students of this school. Consult "Academic Regulations and Procedures" at the beginning of this Bulletin for further information.

Academic Calendar

The School of Health Technology and Management is one of the few schools within the university that is faced with the need to meet concurrent academic and professional requirements at the undergraduate level. These mandates, joined with the geographic challenges incurred in obtaining suitable clinical experience in the Long Island area, make adherence to the usual academic calendar an impossibility. In order to meet these professional needs, a special academic calendar has been developed. This calendar provides for modules of five weeks in length; courses consist of one, two, three or more modules as determined by the academic faculty. (See the "Academic Calendar" section of this Bulletin and related publications.)

Core Curricula

In addition to the specific professional program required for qualification in their fields, all students (except health science and physical therapy students) registered for the undergraduate programs of the school will take the following core program and may be required to take other credits within the School of Health Technology and Management:

Core Courses

Course	Title	Credits
HAS 300	Issues in Health Care	2
HAS 335	Medical Ethics	1
HAS 350	Introduction to Statistics	2
HBP 310	Pathology	3

Programs may require some courses from the following list in addition to the core, basic science and professional courses.

Other Courses

Course	Title	Credits
HAS 332	Management Concepts for Health Professionals	2
HAS 351	Research Literacy/Research Design	1

HAS 363	Computer Literacy for Health Professionals	1
HAS 490	Research Tutorial	2

Clinical Resources

Clinical instruction takes place at more than 215 clinical affiliates of the Health Sciences Center, in addition to University Hospital. Other sections of this Bulletin describe University Hospital and key affiliates which now exceed 2,400 beds.

Each program director, in consultation with the dean, negotiates affiliation arrangements for the use of those clinical facilities which will provide the best possible range and quality of instruction for students. Therefore, not all programs necessarily send students to any one hospital. Each program director can provide, upon request, information about current arrangements for clinical instruction for his/her student group.

Each student is personally responsible for arranging transportation to and from clinical assignments.

Graduation and Degree Requirements

Bachelor of Science Degree

Candidates must have earned a minimum of 120 semester hours of credit (including credit granted for proficiency examinations, etc.), with a grade point average of 2.0 during the junior and senior years of study. (Refer to "Requirements for the Bachelor's Degree" in this Bulletin for a complete description.)

All candidates for graduation must complete the general degree requirements, school and core curricula and specific program requirements.

Master of Science Degree

A minimum of 36 semester hours of graduate study is required, at least 30 of which must be completed at Stony Brook University. A cumulative grade point average of 3.0 is required for graduation; the minimum passing grade for Health care Policy and Management is 2.0. See program descriptions for specific requirements. All degree requirements for the health care policy and management program must be completed within five years.

Courses

Courses offered by the school are intended for Health Technology and Management students only. However, some are open on a limited basis, with permission of the instructor, to other students. Priority is given to Health Sciences Center students.

The Center for Public Health Education (CPHE)

The Center for Public Health Education (CPHE) has been involved in education for health professionals and health profession students since 1983. Its mission is to provide training to health and human service providers to enhance their ability to provide care and services and to deal more effectively and compassionately with clients, patients and co-workers. The number of programs provided by the CPHE document the presence of a strong educational commitment and a very active continuing program of education. Tens of thousands of individuals from the Long Island community have participated in a wide variety of programs conducted by the CPHE throughout the region.

- The CPHE is a partner in the New York/New Jersey AIDS Education and Training Center (AETC), funded by the Health Resources and Services Administration. As a local performance site, the CPHE designs HIV-related training programs tailored to the specific needs of an organization. Programs range from general HIV/AIDS

overviews to in-depth, advanced trainings and mini-residencies. Focused training is offered in subspecialties addressing the needs of men, women and children with HIV, as well as special populations such as adolescents, inmates, substance abusers and the mentally ill.

- The New York State Department of Health AIDS Institute currently provides funding to the CPHE to conduct a variety of training programs in pre-test and post-test HIV counseling for health, and human service providers and community health educators recognizes the Center as a center of expertise in case management. The Center is also a sub-contractor to the Long Island Minority AIDS Coalition to provide treatment adherence training to HIV infected individuals.

For further information contact:

The Center for Public Health Education
School of Health Technology and Management
East Loop Road and Nichols Road
Stony Brook University
Stony Brook, New York 11794-4016
(631) 444-3245 fax: (631) 444-6744
Attention: Patricia Campagna, center associate director

Program in Health Science Leading to the Bachelor of Science Degree

Program Director: Deborah Zelizer

Professors: Peter S. A. Glass, Lawrence E. Reinstein, Stephen A. Vitkun

Associate professors: Maria R.G. Lagade

Assistant professors: Cathy A. Cahill, Susan C. Capello, Michael Carpenter, Linda M. Cimino, MaryAnne Cronin, Leo J. DeBobes, Karen R. Dybus, Robert G. Eaton, Lynda L. Geller, Elaine Gale Gerber, Cheryl Hochenberg, Paul Keraga, Edna L. Kucera, David B. LaBelle, Olga Larios, John T. Marchese, Melinda Monteforte, Edward J. O'Connell, Christine Pitocco, Carol A. Russo, Joy E. Schabel, Andrew Schaeffer, Mark E. Schneider, Nina Patti Slota, Leslie J. Temme, Marie Varela, Catherine M. Vetter, Tamara E. Weiss, Andrew C. White, Deborah Zelizer

Lecturers: Donna Abbondandolo, Sandeep Ailawadi, Omar Alli, Lawrence Beninati, Regina Biasetti, Stanley W. Eason, Wendy Griffin, Kimberly Jackson, Robbye E. Kinkade, David Kudysch, Ellen Malezsewski, Catherine D. McWilliams, Annette M. Mueller, Stacey L. Murphy, Arlene H. Nolan, Bessie Ortega, Stephanie Patterson, Michele Rice-Nelson, Georgina Sampson, Deodat Dan Somaiah

Instructors: Katherine Sara Degen, Christine L. Higdon, Laurie Leverich, Carmen P. McCoy,

Affiliated Faculty:

Program advisors: Alan M. Leiken (Associate Professor, Health Care Policy and Management), Nanci C. Rice, Associate Professor, Health Care Policy and Management), Candace Golightly (Assistant Professor, Clinical Laboratory Sciences)

Professors: Craig A. Lehmann (Clinical Laboratory Sciences)

Associate professors: Moises Eisenberg (Pharmacology Science

Assistant professors: Donna A. Crapanzano (Physician Assistant Education), M. Veronica McKinnon (Health Care Policy

and Management)

Lecturers: Carol M. Gomes (Health Care Policy and Management), Dennis L. Proul (Health Care Policy and Management)

Instructors: John Brittelli (Respiratory Care)

The Bachelor of Science degree in Health Science with areas of concentration in environmental health, public health, community health education, health care management, health care informatics and radiation therapy is designed to prepare students for entry into the non-clinical fields of health care. The curriculum requires that students receive a broad liberal arts education during their first three years. In the senior year the curriculum focuses on health care-related topics. Graduates will be liberally educated and knowledgeable about health care, and can expect to be employed by hospitals, integrated health care delivery systems, physician group practices, health departments, nursing homes, and managed care, corporate and not-for-profit organizations. They can also pursue clinical degrees through appropriate admissions processes.

While there is no formal application process, students should complete the following requirements before advancing to the senior year courses in the program*:

- a. completion of 91 credits with a minimum grade point average of 2.0
- b. all D.E.C. requirements
- c. a minimum of 16 credits in the natural sciences, which are D.E.C. E classified courses

Note: Courses meeting D.E.C. requirements can also meet this requirement.

- d. 21 credits of related electives (see below). Any natural sciences course taken beyond the minimum requirement of 16 credits can also satisfy related elective requirements
 - e. 10 upper division credits (300 and 400 level courses).
- Note:* Courses meeting D.E.C., natural sciences, or elective requirement can also meet this requirement.

- f. 10 credits of computer science/information systems electives are required as prerequisites for the health care informatics concentration. CSE 101, CSE 113, and CSE 114 are strongly recommended.

* A conditional approval for advancement may be granted if, upon judgment of the faculty, there are exceptional circumstances concerning program prerequisites. A student with 85 credits or U4 standing by the fall start date may be allowed to advance to the senior year curriculum. Outstanding prerequisites may be taken concurrently with the BSHS senior year curriculum, subject to approval by the program director.

Related Electives

Students are encouraged to take related electives designated:

ECO, CSE and BUS for the Health care Management concentration
CSE, PSY, ECO and BUS for the Health care Informatics concentration
HIS, HBP, ECO, MEC, BCP, SOC and BUS Environmental Health concentration
LHW, ECO, ANT, SOC, HMC, PSY and BUS for the Public Health concentration
SOC, HWC, LHW, PSY, SSI and HMC for the Community Health Education concentration

Call the Health Science program for advising and an extensive list of related electives or see the Course Description listing in

the University Undergraduate Bulletin for complete information.

Program Requirements

A. Required Core Courses - Fall Semester (Senior Year)

For the first semester of the last year of study (senior year), all students enroll in 15 credits of core health science courses including:

Course #	Title	Credits
HAN 300	Health care Issues	3
HAN 333	Communication Skills	3
HAN 335	Professional Ethics	3
HAN 364	Health Information Systems Management	3
HAN 383	Professional Writing	3

Special Academic Requirements

To be in good standing in the health science program, a student must maintain a 2.0 overall cumulative grade point average, with a 2.50 minimum professional grade point average in the required HAN courses. All core health science courses must be passed with a grade of C- or better before a student is permitted to advance to the concentration courses. If a student receives a grade less than C- in any of the HAN (health science major) courses, the course must be repeated.

B. Concentration Courses - Spring Semester (Senior Year)

During the last semester of the senior year, students may complete either 14 credits from among the Health Science (HAN) courses or take all 14 credits in one of the concentrations. Students are advised to select an area of concentration. Four upper division courses are offered in each concentration listed below:

Health care Management

This concentration provides students with the knowledge and skills to manage health care practices, plan health care programs and utilize the fundamentals of health care management and health services administration.

Course#	Title	Credits
HAN 432	Introduction to Health care Management	4
HAN 434	Corporate Compliance and Regulation	4
HAN 436	Continuous Quality Improvement in Health care	3
HAN 438	Coding ICD-9-CM/CPT	3

Community Health Education

This concentration provides students with the knowledge and skills to plan, implement and evaluate health education programs in the community. Students who successfully complete this concentration may be eligible to apply for the national certification examination of health educators. Employment opportunities include public and private health-related agencies, hospitals and HMOs.

Course#	Title	Credits
HAN 440	Introduction to Community Health Education	4
HAN 442	Community Health Education Models and Resources	3
HAN 444	Teaching Strategies	4

HAN 456	Behavioral and Social Aspects of Health	3
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Public Health

This concentration provides students with a basic foundation in public health, including epidemiology and biostatistics. Students who graduate with this concentration may find employment in health departments, public health agencies, health maintenance organizations and health-related corporations.

Course#	Title	Credits
HAN 450	Introduction to Public Health	4
HAN 452	Epidemiology and Biostatistics	4
HAN 454	Issues in Public Health	3
HAN 456	Behavioral and Social Aspects of Health	3

Health care Informatics

This concentration prepares students for a career in health care information systems, processing and managing health care data with computer and communication technologies. Emphasis is placed on health care information systems' architecture, computerized medical data processing and clinical decision support systems. Ten (10) credits of computer science/information systems electives are required as prerequisites. CSE 101, CSE 113 and CSE 114 are strongly recommended.

Course#	Title	Credits
HAN 462	Developing Health Information Systems	4
HAN 464	Health Information Systems Management	4
HAN 466	Applied Health care Informatics	3
HAN 467	Utilization and Outcomes Research Methods	3

Environmental Health

This concentration explores the concepts and principles of various environmental health issues, including lead management, pest management, hazardous waste management and food service sanitation. Emphasis is placed on the recognition, identification and control of environmental contaminants in the workplace; prevention and preparedness for hazardous material incidents; and compliance with various regulatory agencies.

Course#	Title	Credits
HAN 470	Environmental Health, Radiation Safety and Safety Engineering	4
HAN 474	Industrial Hygiene	4
HAN 476	Hazardous Material, Emergency Response and Environmental Auditing	4
HAN 478	Independent Study (Environmental Health concentration)	2

Radiation Therapy Concentration

This concentration is designed to provide students with the knowledge and skills for the competent performance for entry-level positions in the field of Radiation Therapy. Radiation Therapy is the use of radiation to treat or relieve pain of cancer and other diseases. Upon graduation, students may apply for admission to the 12-month, hospital based post-baccalaureate Radiation Therapy program, which prepares students for entry-level clinical radiation therapy positions. Note: Preference will be given to students who document a strong science and mathematics background (minimum grade of "C" in each

course; overall G.P.A of 2.5) from high school and/or college. Coursework to include: algebra, advanced algebra, geometry, trigonometry, natural science, general physics, human anatomy, physiology, CPR certification; and students with health care experience (paid or volunteer) and/or community service.

Medical Dosimetry Concentration

This concentration is designed to provide students with the knowledge and skills for the competent performance for entry-level positions in the field of Medical Dosimetry. A Medical Dosimetrist is a member of the Radiation Oncology team who has the education and expertise necessary to generate radiation dose distributions and dose calculations in collaboration with the medical physicist and the radiation oncologist for cancer patients. Upon graduation, students may apply for admission to the 12-month, hospital based post-baccalaureate Medical Dosimetry program, which prepares students for entry-level medical dosimetry positions. Note: HAN – 392 Radiation Oncology Medical Physics I (4 credits) is required as a prerequisite for the Medical Dosimetry concentration. Preference will be given to students with 2 semesters of college calculus and physics with a grade "C" or better, or AP college credit; geometry, trigonometry and intermediate algebra with a grade "C" or better; and an overall G.P.A. of 2.5 in college level course work. Anatomy and physiology are strongly recommended.

Course#	Title	Credits
HAN 480	Introduction to Radiation Therapy and Medical Dosimetry	1
HAN 482	Introduction to Pathology	3
HAN 486	Principles and Practices of Radiation Therapy	4
HAN 488	Medical Imaging and Radiographic Anatomy	3
HAN 492	Radiation Oncology/Medical Physics II	4

Courses

HAN 190 Introduction to the Health Professions
Presents topics of interest to students considering careers as health professionals. Introduces the student to basic concepts of health, factors influencing health care, health care settings, and selected health professions. May not be taken for credit in addition to LHW 102.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAN 300 Health Care Issues
Provides students with an overview of the organization of the health care delivery system. Includes the role of health care professionals and healthcare organizations. Explores issues regarding health care insurance, the uninsured and underserved, managed care and changes in the healthcare marketplace. Provides an overview of major diseases including epidemics, chronic and acute illness. Discusses the role of health promotion and disease prevention as well as alternative and complementary medicine. Restricted to HAN majors.
3 credits, Lecture

HAN 312 Medical Terminology and Human Anatomy
Provides the medical terminology and human anatomy needed for non-clinical roles in healthcare. Presents medical terminology through didactic and experiential techniques by reviewing the digestive, urinary, integumentary, reproductive, respiratory, endocrine, nervous, musculoskeletal, cardiovascular and lymphatic systems. Students will learn how to build a medical vocabulary and understand the importance of precise communication in the delivery of health care. Prerequisites: Restricted to senior Health Science students.
2 credits, Lecture

HAN 333 Communication Skills
Introduces the principles of effective communication and stages of group development. Offers theory and practice of interpersonal communication and groups. Provides specific topics related to health care teams. Restricted to HAN majors.
3 credits, Lecture

HAN 335 Professional Ethics
Provides students with a framework for identifying ethical dilemmas in professional settings. Through the use of case studies and role-playing, students simulate ethical situations relating to confidentiality, informed consent and truth-telling, and explore various approaches for resolving these conflicts. Presents professional codes of ethics using small and large group discussions. Presents and discusses ethics-related topics such as genetics, transplants, cloning advance directives, and health care accessibility. Restricted to HAN majors.
3 credits, Lecture

HAN 364 Issues in Health Care Informatics
Acquaints students with the use and application of personal computers and medical information systems used in health care. Emphasizes the optimization and customization potential of computer functions for standard and specialized tasks. Examines the present and potential use of the Internet in the health care arena. Presents the application of medical informatics to health care delivery through classroom demonstrations and discussions. Restricted to HAN majors.
3 credits, Lecture

HAN 370 Prehospital Care
Provides necessary knowledge and skills to recognize signs and symptoms of illness and injury and the appropriate application of emergency medical care. Upon successful completion of the course and the completion of a 24-hour clinical observation rotation, students will be eligible to take the New York State Department of Health Emergency Medical Technician (EMT) exam. Includes advanced pathophysiology and expands upon the EMT training curriculum. Serves as a prerequisite course for paramedic training. Restricted to students approved for appropriate senior year track in the Health Science major.
Prerequisite: Admission to Undergraduate Health Sciences Center program
6 credits, Lecture, Laboratory

HAN 383 Professional Writing
Comprehensive overview of the skill set required to write professional documents. Students will be required to communicate to a variety of audiences via letters, memos, electronically transmitted documents, researched essays and brochures. Introduces students to software packages and other web-based resources. Restricted to HAN majors.
3 credits, Lecture

HAN 392 Radiation Oncology/Medical Physics I
Provides students interested in a career in medical dosimetry with an introduction to medical physics for radiation oncology. First of a two-part course that provides the basis for further study of the applications of radiation oncology physics to radiation treatment planning and radiation dose calculations. Includes topics such as structure of matter, nuclear transformations, x-ray production, radiation generators, interaction of radiation with matter, measurement of ionizing radiation, quality of x-rays, and measurement of absorbed dose. Prerequisite: Health Science major. Restricted to HAN majors.
4 credits, Lecture

HAN 410 Survey of Nursing
Provides introduction and overview of nursing concepts. Addresses the realities of work and social and political pressures of the nursing profession.
Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HAN 411 Math and Dosage Calculations for Pharmacy Technician
Comprehensive overview of math concepts essential to the practice of the pharmacy technician. Through extensive work with fractions, dec-

imals, ratios, percentages and alligations, students will be able to develop the skills necessary to calculate doses and prepare medications. Apothecary, Avoirdupois, and Metric systems will be explained and compared. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 412 Legal and Ethical Issues for Pharmacy Technicians

Comprehensive overview of the laws governing the practice of pharmacy on both the state and Federal levels. Focus is on the scope of practice and the legal and ethical role of the pharmacy technician. Regulatory agencies and professional organizations will be discussed in depth. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture

HAN 413 Pharmacology for Pharmacy Technicians

Comprehensive overview of all categories of prescription and non-prescription medications. Emphasis is placed on drug classes and mechanism of action in order to provide understanding of why certain drugs are prescribed for certain disease states. Topics will include drug classes, pharmacokinetics, therapeutic uses, adverse effects, and drug interactions, adapted specifically for the pharmacy technician. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 414 Pharmacy Practice I

Comprehensive overview of topics and subjects relevant to the practice of pharmacy technicians in both hospital and retail settings. Focus is on service aspects, roles, prescription filling, order filling, preparation of products and proper use of equipment. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 415 Pharmacy Practice II

Comprehensive overview of topics and subjects relevant to the practice of pharmacy technicians in both hospital and retail settings. Focus is on inventory management, pharmacy literature, and reimbursement. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 418 Pharmacy Technician Retail Clinical

Experiential practicum enables the student to practice as a pharmacy technician in the retail setting under the supervision of an approved preceptor. The focus of this experience will include: the role of the pharmacy technician in the retail setting, customer service principles, prescription reading, patient profiles, preparation of prescriptions for filling, third party billing, cash handling, purchasing and use of the computer. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Required but Unsupervised, Clinical

HAN 419 Pharmacy Technician Hospital Clinical

Experiential practicum enables the student to practice as a pharmacy technician in the hospital setting under the supervision of an approved preceptor. The focus of this experience will include: the role of the pharmacy technician in the hospital setting, customer service principles, prescriber order reading, patient profiles, preparation of medications for order filling, aseptic technique, preparation of intravenous and extemporaneous medication and use of the computer. Restricted

to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Required but Unsupervised, Clinical

HAN 420 ICD-9-CM for Medical Billers and Coders

Comprehensive overview of the practice and procedure of International Classification of Diseases, 9th Revision, Clinical Modification, (ICD-9-CM) guidelines for coding and reporting in the hospital and physician's office. Topics include: accurately translating infectious, parasitic, body-systems disease; physical and mental disorders, Uniform Hospital Discharge Data Set (UHDDS) definitions and ICD-9-CM codes to hospital inpatient records, identification of patient encounter types, and interpretation of health/medical records. Course will also cover Supplementary Classification such as E and V Codes. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAN 421 CPT for Medical Billers and Coders

Comprehensive overview of the practice and procedures of the Current Procedural Terminology (CPT-4) code set. Topics include: interpreting conventions, formats and instructional notations; definitions of the classification system and CPT nomenclature; and applying basic guidelines from medical, surgical, evaluation/management, and diagnostic services to select medical procedures and services that require coding in the hospital and physician office. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAN 422 Medical Billing Methodologies

Comprehensive overview of the practice and procedures of the Medical Billing in both the hospital and physician's office. Topics include the link between International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) diagnoses and Current Procedural Terminology (CPT-4) procedure coding for reimbursement, reimbursement methodologies, medical records issues, guidelines of the Health Care Financing Administration (HCFA) and Evaluation and Management codes and guidelines. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 423 Clinical Record

Exposes students to actual medical records from a variety of clinical settings: ambulatory surgery centers, emergency departments and various inpatient and outpatient hospital departments. Focuses on an intensive application of coding skills. Advanced areas of medical records coding will emphasize sequencing of multiple diagnoses and procedures to assure correct reimbursement. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 432 Introduction to Healthcare Management

Introduces students to the practices and theories of healthcare policy and management. Presents overview of the trends in public policy and management techniques. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAN 434 Corporate Compliance and Regulation

Provides overview of recently enacted legislation requiring healthcare institutions' compliance programs. Introduces regulations and compliance including anti-trust, controlled substances, Americans with Disabilities Act, Occupational Safety and Health Act, Joint Commission on Accreditation of Health Care Organizations, Department of Health jurisdiction over hospitals and licensure requirements. Restricted to students approved for appropriate senior year track in the Health Sci-

ence major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAN 435 Sales and Marketing in Healthcare

Introduces the essential aspects of marketing and sales in the changing healthcare world. Addresses the concept of marketing, the nature of marketing strategy and the environment in which marketing operates. Provides a framework for understanding the consumer, along with key selling methods. Topics include the "Four Ps" of marketing, promotional elements of marketing, the communication process, and personal selling. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 436 Continuous Quality Improvement in Healthcare

Provides basic principles associated with Total Quality Management (TQM) and Continuous Quality Improvement (CQI). Aids identification and quality problem-solving found in all healthcare organizations utilizing continuous quality improvement (CQI) tools and techniques. Through the use of case studies, current events, and textbook materials, students will learn how to identify problems, recommend improvements, and collect data to demonstrate process improvement. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 438 Coding ICD-9-CM/CPT

Introduces students to medical terminology. An overview of the International Classification of Diseases, 9th version (ICD-9-CM), and Current Procedural Terminology (CPT) coding will be presented. Discusses the relationship between coding and reimbursement. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 440 Introduction to Community Health Education

Introduces students to the foundation of planning, implementing and evaluating community-based health education programs. Presents classic theories of health education including the social learning theory, health belief model, and the attribution theory. Reviews relevant health education programs. Examines various learning styles and skills. Basic health education models are introduced and critiqued through individual and group projects. Reviews health education professional organizations and associations. Each student is required to design a health education program for a selected population. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture

HAN 442 Community Health Education Models and Resources

Reviews past and present community health education models utilized locally, nationally and internationally. Analyzes health education programs and teaches skills that may be applied to future projects. Discusses resources for providing community health education from private corporations, foundations, and public organizations and agencies. Introduces governmental and non-governmental resources for planning and implementing health education programs for diverse and special populations. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 444 Teaching Strategies

Students examine their roles as health planners and health teachers for

diverse communities. Presents written goals, behavioral objectives, health education teaching strategies and evaluation plans. Reviews appropriate media (print, audiovisual, software, interactive programs) for selective programs. Requires students to prepare, deliver and evaluate a community health education session that is videotaped and reviewed by the class. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAN 445 Independent Living & Disability

Interdisciplinary exploration of how independent living has evolved as a social and political movement. Topics include analyzing current legislation, social issues and living philosophies. Guest speakers will facilitate the students gaining a multi-layered understanding of the issues faced by people with disabilities living independently. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 446 Disability Health and Community

Presents a comprehensive view of health and community concerns experienced by people with disabilities. Explores historical analysis, biomedical discourse, cultural critique, and field research to understand the evolution of medical practices, cultural beliefs, and social structures influencing the treatments, services, and opportunities available to people with disabilities in the United States and internationally. Includes gender, sexuality, race, poverty, "invisible disabilities", eugenic sterilization, assisted suicide topics. Guest speakers will facilitate a multi-layered understanding of the issues faced by people with disabilities and their families. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 447 Children with Disabilities

Provides a comprehensive overview of the theories of child development and issues related to children with developmental spectrum disorders, neurodevelopmental disorders, and communication and learning disorders. Includes behavioral, developmental, language, medical, motor and sensory needs of children with developmental disabilities. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture

HAN 448 Disability and Employment

Presents a comprehensive overview of the Disability and Employment field. Explores pertinent employment-related legislation, the vocational rehabilitation system, the structure of existing governmental and not-for-profit programs, and current disability employment practices, through the use of didactic and experiential techniques. Emphasizes the key roles of placement professionals. Provides individualized learning opportunities for individuals with disabilities who happen to be job seeking. Restricted to students approved for appropriate senior year track in the Health Science major

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 449 Project in Disability Studies

Students will develop independent projects in topic area of disability studies. They will be required to develop a set of readings, engage in a minimum of 15 hours of experiential learning [in the form of community site-visits, volunteerism, or internships]. Course instructors, and assigned mentors will assist students during bi-weekly group meetings and by scheduled appointments. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture, Laboratory

HAN 450 Introduction to Public Health

Introduces principles and practices of public health, including definitions and concepts, history and development, determinants of health, and ethical and legal aspects of public health. Orients students to various public health settings such as local and state health departments, not-for-profit community organizations, and agencies for special populations. Provides students with basic knowledge and skills for conducting community needs assessment with diverse populations. Addresses infectious disease control, environmental health, chronic disease control, tobacco and drug control, maternal and child health, women's health, and injury control topics. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 452 Epidemiology and Biostatistics

Provides students with the basic knowledge and skills for studying diseases of individuals and groups. Introduces biostatistical approaches and skills for collecting and organizing data of communities to meet health needs. Addresses epidemiological concepts, limitations and resources. Through the use of case studies, students study various epidemiological models used regionally, nationally and internationally. Includes discussions about ethical situations related to research and statistical studies. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 454 Issues in Public Health

Addresses contemporary topics related to public health policies and practices. Topics include recent regional and national pandemics, changes in public health prevention programs and current political policy-making. Introduces health trends and patterns through the study of changing laws and policies governing public health services and education. Guest lecturers from the county health departments and local community health and public health organizations present up-to-date information on public health issues. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 456 Behavioral and Social Aspects of Health

Introduces social and behavioral factors as determinants of health. Explores theories of human and group behavior and health behavior change models through lecture and case study. Explores the dynamics between health behaviors and culture, gender, age and socioeconomic status. Students study various inventory tools for measuring health-related knowledge and methods for measuring behavior change. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 462 Developing Health Information Systems

Introduces students to fundamental hardware and software concepts, operating systems, GUI environments and system development life cycles. Reviews Windows applications such as spreadsheet, database, forms, queries and reports. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAN 464 Health Information Systems Management

The course includes organizational change issues in healthcare environments, resource management (inventory, tracking and acquisition) and the role of policy formulation. Consumer issues, standards and security and the provision of health information resources to healthcare workers will also be covered. Relevant applications and issues related to health services will also be explored. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAN 466 Applied Healthcare Informatics

Provides overview of the role of information systems in healthcare organizations. Emphasizes the integration of evidence-based research into clinical decision-making and the influence of information systems on health outcomes. Explores technical, organizational and cost-benefit issues related to healthcare information systems, including clinical decision-support, integrated networking and distributed computing technologies, telemedicine applications and artificial intelligence solutions. Through a combination of classroom-based seminars, group case studies, and computer laboratory exercises, students will develop and exercise analytical skills for appraising health information systems, as well as acquire practical experience using biomedical research databases, desktop application software, and electronic communication systems. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 467 Utilization and Outcomes Research Methods

Provides the necessary tools to evaluate and implement research methods and utilize outcomes within the healthcare system. Presents an overview of statistics and research methods, and evaluation techniques utilizing group discussions and case studies. Demonstrates the utilization of technology as a resource for existing research as well as management tools. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 470 Environmental Health, Radiation Safety and Safety Engineering

Presents an overview of the field of occupational health and safety. Focuses on three key areas including radiation protection, environmental health, and safety engineering. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAN 472 Weapons of Mass Destruction

Presents a comprehensive overview of nuclear, biological incendiary, chemical and explosive agents that are more likely to be used as Weapons of Mass Destruction (WMD). Expands the Emergency Medical Service (EMS) provider's training in responding to conventional HAZMAT incidents and focuses on the recognition and management of incidents involving bioterrorism, chemical and nuclear weapons. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAN 473 Emergency Response to Terrorism

Prepares emergency medical services (EMS) providers to recognize and respond to terrorist incidents. Topics include identification of on-scene indicators of a suspicious incident, recognition of the tactics and objectives of terrorism, and scene/perimeter control issues that are unique to a terrorist incident. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture

HAN 474 Industrial Hygiene

Introduces basic concepts of industrial hygiene. Presents the methodology and procedures that professionals in the field use to identify, measure, and correct hazards in the work environment. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAN 476 Hazardous Materials, Emergency Response and Environmental Auditing

Concentrates on the nature of hazardous materials and how they are handled in the workplace. Presents the fundamentals of emergency response planning and how to perform environmental audits. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program
4 credits, Lecture

HAN 477 Advanced HAZMAT Training for Emergency Medical Services

Comprehensive overview of the practice and procedures required of Emergency Medical Service (EMS) providers when responding to major HAZMAT incidents. Includes management strategies for Hazards Materials (HAZMAT) disasters. Emphasizes on the coordination of services and resources by national, federal and local agencies. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program
3 credits, Lecture

HAN 478 Independent Study in Environmental Health

Proposals for special projects involving advanced readings, reports and discussions on selected environmental health topics must be submitted. A research paper on the selected topic will be submitted to an assigned faculty sponsor. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Tutorial

HAN 480 Introduction to Radiation Therapy and Medical Dosimetry

Provides students with a history and an overview of radiation therapy and medical dosimetry and its role in medicine. Students will be oriented to academic and administrative structure, key departments and personnel. Introduces other health science professions and how they interrelate to the radiation therapy and medical dosimetry professions. The student will be oriented to the hospital organization and radiation oncology services organization. Certification examinations, professional credentialing, accreditation, and professional organizations will be identified and discussed. The clinical education component will be introduced and emphasis placed upon how knowledge, attitudes and skills will be applied within the clinical setting, and what teaching must occur in the clinic. A detailed list and explanation of the clinical duties and responsibilities of radiation therapy and medical dosimetry students will be provided. Career advancement and mobility will be explored. Restricted to students approved for appropriate senior year track in the Health Science program.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAN 481 Introduction to Anesthesia

Introduces the basics of the anesthesia specialty. Defines the role of the anesthesia specialist as an integral part of the anesthesia patient care team. Through the use of lecture, video, tour and hand-on demonstration, students will gain a working knowledge of how to assist anesthesiologists and anesthesiologists in the acquisition, preparation and application of equipment and supplies required for the administration of anesthesia. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HAN 482 Introduction to Pathology

Pathology is the branch of medicine devoted to the study and understanding of disease. This course will introduce the student to the concept of disease. The types of growth, causative factors and biological behavior of neoplastic diseases are discussed. Staging procedures are introduced. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program
3 credits, Lecture

HAN 483 Cardiopulmonary Physiology for ASATT

Familiarizes students with the anatomical structures and physiological mechanisms and functions of the cardiopulmonary system. Reviews mathematical formulas and calculations used in clinical applications of physiologic concepts. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program
3 credits, Lecture

HAN 484 Radiation Therapy Physics

Introduces students interested in a career in radiation therapy to medical physics for radiation oncology. It will provide the basis for further study of the applications of radiation oncology physics to radiation treatment planning and radiation dose-calculations. Restricted to students approved for appropriate senior year track in the Health Science program.

Prerequisite: Admission to Undergraduate Health Sciences Center program
3 credits, Lecture

HAN 485 Clinical Monitoring

Provides students with a working knowledge of clinical monitoring devices and their application to clinical settings. Covers duties of anesthesia technologist including the provision of technical support to professional staff to facilitate anesthesia departmental function. Develops skills to maintain and organize the anesthesia environment, equipment and supplies. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAN 486 Principles and Practice of Radiation Therapy

Introduces student to the practice and technical aspects of radiation therapy. An overview of cancer to include: statistics, epidemiology, etiology, patient education and assessment, and pharmacology and drug administration. Radiation therapy techniques specific to anatomical site will be demonstrated and treatment outcome statistics discussed. Explores treatment options available to cancer patients. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program
4 credits, Lecture

HAN 488 Medical Imaging and Radiographic Anatomy

Presents an overview of a variety of diagnostic imaging modalities and therapeutic applications and procedures provided by modern health-care facilities. Discusses imaging equipment and procedures, and includes recording images on film media and operation of photochemical processing equipment. Restricted to students approved for appropriate senior year track in the Health Science program.

Prerequisite: Admission to Undergraduate Health Sciences Center program
3 credits, Lecture

HAN 489 Pharmacology for ASATT

Presents basic principles of pharmacologic properties and clinical applications. Through the use of lectures and scenarios, provides working knowledge base of drug classifications and their modes of action to produce therapeutic effects on target sites. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: Admission to Undergraduate Health Sciences Center program
4 credits, Lecture

HAN 492 Radiation Oncology/Medical Physics II

Provides students interested in a career in medical dosimetry with an introduction to medical physics for radiation oncology. Second course in a two-part series that provides the basis for further study of the

applications of radiation oncology physics to radiation treatment planning and radiation dose calculations. Covers topics such as radiation dose distribution, patient dose calculations, treatment planning, electron beam therapy, brachytherapy, modern treatment delivery, and radiation protection. Restricted to students approved for appropriate senior year track in the Health Science program.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

Division of Graduate Studies

Department of Health Care Policy and Management

Chair: Alan M. Leiken

Vice Chair: Nanci C. Rice

Professors: Robert O. Hawkins Jr. (emeritus), I. Bernard Hirsch, H. Barry Waldman

Associate professors: Kenneth J. Feldman, Karen Goldsteen, Arnold Jaffe, Theodore A. Jospe, Alan M. Leiken, Nanci C. Rice, Bruce Schroffel, Thomas R. Sexton, Fred S. Sganga, Rose A. Walton (Emeritus), Jay I. Zuckerman

Assistant professors: Lisa Benz Scott, M. Veronica McKinnon, Karen J. Mendelsohn, Hector Sepulveda, Robert A. Wild

Lecturers: Josef Bohm, Sabra Boughton, Francis X. Burke, Gabriella R. Chiamonte, Josephine Connolly-Schoonen, Jane E. Franz, Carol M. Gomes, Loretta C. Gvazdinskas, Terry Hargadon, Melvin Kershner, Ronald F. La Valle, Marilyn J. Lawler Haig, Robert M. Lipp, Dennis L. Proul, Oliver C. Schepers, Sabina Steiner, Guillaume Van Moorsel, Richard J. Zaino

Instructor: Lorraine E. Danowskir C. Schepers, Sabina Steiner, Richard J. Zaino, Deborah Zelizer

Program in Health Care Policy and Management Leading to the Master of Science Degree

Program Director: Nanci C. Rice

This program is open to qualified health professionals who wish to pursue careers in community health education and planning, health care management, health policy, and nutrition within their own professional fields.

Program Requirements

Candidates must complete a minimum of 36 credits and satisfy the specific core, concentration and practicum, requirements described below. Courses are chosen with program advisement and approval.

Core: Candidates must successfully complete courses to demonstrate understanding and competence in the areas of medical care delivery, research methodology, statistics and communication (12 credits).

Concentration: Candidates must select a specialty concentration in health care management, health policy, community health education, or nutrition, and complete courses in the chosen area.

Practicum: Candidates must complete a practicum in their specialty concentrations (3-6 credits).

Thesis: A master's thesis is optional (4-6 credits) and is in

lieu of the practicum requirement.

The Advanced Certificate Program in Health Care Management

Program Directors: Alan Leiken and Thomas Sexton

Program Requirements

The advanced certificate program in Health Care Management is a professional development program intended for health practitioners who require management training and for managers who require specific management training in the health-care field. The program is jointly sponsored by the School of Health Technology and Management and the W. Averell Harriman School for Management and Policy.

The curriculum consists of 18 credits. Students are required to complete a minimum of four courses with a health care management focus.

The Advanced Certificate Program in Community Health

Program Director: Nanci C. Rice

Program Requirements

The advanced certificate program is designed for health professionals including clinicians, health care managers and health educators who are working or seeking to work in a variety of community health settings. These include health departments, private health agencies, HMOs, ambulatory care services, work sites and hospitals. The program is also designed for health professionals who are not specifically employed in a community health setting, but who plan and manage community health programs. The curriculum consists of 18 credits. All courses may be directly applied to the Master of Science in Health care Policy and Management degree.

Dietetic Internship Program

Program Director: Josephine Connelly-Schoonen

The dietetic internship program is a 35-week program beginning each September, co-sponsored by the School of Medicine and the School of Health Technology and Management. Applicants are required to have a baccalaureate degree in nutrition from an accredited college or university, a preferred minimum grade point average of 3.0 and an American Dietetic Association verification statement of completion of a dietetic program. Students may apply to the Master of Science degree program in health care policy and management with a concentration in nutrition and pursue the graduate degree concurrently.

Undergraduate Courses

HAS 151 Preparation for Statistics

Arithmetic, algebra, exponents, and graphing needed for elementary statistics. Requires permission of the instructor, whose decision will be based on results of a preliminary diagnostic test.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Lecture

HAS 190 Introduction to the Health Professions

Presents topics of interest to students considering careers as health professionals. Introduces the student to basic concepts of health, factors influencing health care, health care settings, and selected health professions. May not be taken for credit in addition to LHW 102.

1 credit, Lecture

HAS 192-F Introduction to Autism Spectrum Disorders

Provides an introduction to autism and related disorders. Discusses characteristics of individuals with autism, Asperger's syndrome and other pervasive developmental disorders, including their manifestation at various intellectual levels and across the age span. Addresses prevalence, current theories of cause and development, therapeutic interventions, and program effectiveness. Introduces family stress and life issues and the concepts of normalization and inclusion. Not to be taken for credit in addition to HAS 501.

3 credits, Lecture

HAS 240 ICD-9 CM Coding

Provides an overview of the practice and procedure of International Classification of Diseases, 9th Revision, Clinical Modification, (ICD-9-CM) guidelines for coding and reporting in the hospital setting. Focuses on accurately translating infectious, parasitic, body-systems disease; physical and mental disorders; and complications of pregnancy into appropriate ICD-9-CM code. Covers Supplementary Classification including E and V Codes. Enrollment in course is restricted. Contact School of Health Technology and Management, 631-444-6870.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAS 241 C PT Coding

Provides overview of the practice and procedures of Current Procedural Terminology (CPT) code set. Students will learn to utilize CPT as a list of descriptive terms, guidelines, and identifying codes for reporting medical services and procedures. Enrollment in course is restricted. Contact School of Health Technology and Management, 631-444-6870.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAS 242 Medical Billing

Provides overview of the practice and procedures of medical billing. Focuses on the link between International Classification of Diseases, 9th revision, Clinical Modification (ICD-9-CM) diagnoses and Current Procedural Terminology (CPT-4) procedure coding for reimbursement methodologies in the hospital in and out patient settings. Enrollment in course is restricted. Contact School of Health Technology and Management, 631-444-6870.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAS 243 DRGs

Provides an overview of the role of Diagnosis Related Groups (DRGs) payment systems in the inpatient hospital setting. Explores the interrelationship between International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) coding, Current Procedural Terminology (CPT) procedure codes and (DRGs). Enrollment in course is restricted. Contact School of Health Technology and Management, 631-444-6870.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAS 260 Community Education and Prevention Strategies

Provides theory and essential methodologies utilized in the development of patient, family and community education programs and prevention strategies. Reviews prevention activities for effective application in the clinical treatment environment. Students will develop a drug and alcohol prevention education series. Enrollment in course is restricted. Contact School of Health Technology and Management, 631-444-6870 or School of Social Welfare, 631-444-3141. Crosslisted as HAS or HWC 260.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture

HAS 261 CASAC's Professional and Ethical Responsibilities

Explores professional and ethical responsibilities that govern all

client/alcoholism and substance abuse counselor interactions. Discusses boundaries of clinical relationships and emphasizes appropriate and inappropriate interactions between counselors and their clients and worker wellness. Reviews laws, regulations, policies and procedures that govern responsible practice. Enrollment in course is restricted. Contact School of Health Technology and Management, 631-444-6870 or School of Social Welfare, 631-444-3141. Crosslisted as HAS or HWC 261.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAS 262 Assessment; Clinical Evaluation; Treatment Planning and Case Management

Provides the alcoholism and substance abuse counselor trainee with essential knowledge of assessment, clinical diagnosis and evaluation methods utilized across all treatment environments. Explores ways of eliciting and evaluating the data collected from the client and developing treatment plans. Reviews assessment instruments, interviewing skills, referral to other health and human services providers and case management services. Enrollment in course is restricted. Contact School of Health Technology and Management, 631-444-6870 or School of Social Welfare, 631-444-3141. Crosslisted as HAS or HWC 262.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAS 263 Overview of Chemical Dependency

Enrollment in this course is restricted. Presents a broad overview of the addiction fields. Includes history and overview of addiction and chemical dependency, and basic knowledge of physical and pharmacological effects that alcohol and drugs have on the human body. Introduces varied theories and models of addiction. Enrollment in course is restricted. Contact School of Health Technology and Management, 631-444-6870 or School of Social Welfare, 631-444-3141. Crosslisted as HAS or HWC 263.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAS 264 Diversified Treatment Modalities for Chemical Dependency

Explores various treatment modalities utilized in alcoholism and chemical dependency fields. Includes drug free based interventions; methadone maintenance; in-patient and out-patient treatment; psychotherapy; nontraditional models of treatment; spiritual models; New York State Office of Alcoholism and Substance Abuse Services (OASAS) approved models of treatment; and the role 12 step programs play in recovery. Enrollment in course is restricted. Contact School of Health Technology and Management, 631-444-6870 or School of Social Welfare, 631-444-3141. Crosslisted as HAS or HWC 264.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAS 265 Essentials of Individual, Group and Family Counseling

Provides drug abuse and alcoholism counseling essentials for individual, groups and families/significant others. Discusses the theory and practice of group and individual counseling; group dynamics; skills and techniques to overcome client resistance; dynamics of a family system coping with addictions; group counseling techniques and interventions; and the assessment of the client's vocational and educational needs. Covers the biological, psychological, social, emotional and spiritual aspects of recovery counseling for individuals, groups and significant others. Enrollment in course is restricted. Contact School of Health Technology and Management, 631-444-6870 or School of Social Welfare, 631-444-3141. Crosslisted as HAS or HWC 265.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAS 266 Counseling Issues: Human Growth and Development

Provides a base of knowledge necessary to understand the physical,

psychological, emotional and spiritual development of humans. Reviews the life cycle stages: conception, infancy, early childhood, middle and late adolescence, young adulthood, adulthood, and late adulthood. Explores how alcohol and drugs impact the natural stages of growth and development. Enrollment in course is restricted. Contact School of Health Technology and Management, 631-444-6870 or School of Social Welfare, 631-444-3141. Crosslisted as HAS or HWC 266.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HAS 267 Counseling Issues: HIV/AIDS, STDs and Hepatitis A, B and C

Presents etiology, epidemiology, spectrum of disease, signs and symptoms, treatments and prevention strategies of the Human Immunodeficiency Virus/Acquired Immunodeficiency Disease Syndrome (HIV/AIDS), curable and treatable Sexually Transmitted Diseases (STDs), and Hepatitis A, B and C. Increases understanding of the need to assess and refer these and other related communicable diseases through the therapeutic relationship with clients. Enrollment in course is restricted. Contact School of Health Technology and Management, 631-444-6870 or School of Social Welfare, 631-444-3141. Crosslisted as HAS or HWC 267.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 268 Counseling Issues: Counseling and Treating Special Populations

Enhances knowledge and skills to effectively provide alcoholism and substance abuse counseling to diverse populations and understanding of the special needs of certain groups. Addresses issues related to diverse populations including people of color; ethnicity; women; religion; legal status; adolescents; dual diagnoses and other comorbidities; elders; veterans; trauma and sexual abuse survivors; lesbian, gay, transgendered and bisexual (LGTB) clients. Provides an overview of issues related to treating eating disorders, compulsive gambling, domestic violence and DWI offenders. Enrollment in course is restricted. Contact School of Health Technology and Management, 631-444-6870 or School of Social Welfare, 631-444-3141. Crosslisted as HAS or HWC 268.

Prerequisite: Admission to Undergraduate Health Sciences Center program
3 credits, Lecture

HAS 290 Medicine and Society

Examines traditional concerns of the humanities and social sciences as they interface with health care and its delivery. Practicing physicians or other health professionals present clinical cases. Emphasizes confidentiality, experimentation, dying and death, and allocation of scarce resources. Focuses on the social, historical, ethical, and humanistic importance of the cases. Permission of instructor required.

Prerequisite: Admission to Undergraduate Health Sciences Center program
3 credits, Lecture

HAS 292 Behavioral Intervention for Children with Autism

Provides framework to develop and implement behaviorally based instruction for children with autism spectrum disorders. Presents the variables that control learning in instructional environments. Offers opportunity to develop technical competencies in behavior analytic intervention strategies (defining and measuring behavior, shaping, chaining, and discrete trial instruction) that facilitate acquisition, maintenance and generalization of skills. Involves "hands on" experience for minimum of five hours per week at sites that provide services for children with autismism. Corequisite or prerequisite: HAS 192, not to be taken for credit in addition to HAS 502. Transportation to off-campus sites must be provided by the student.

4 credits, Lecture

HAS 300 Issues in Health Care

Examines major issues influencing health care delivery. Emphasizes analysis of significance of these issues to the health professions. Covers organization of the delivery system, professional roles, quality control, cost controls, health agencies and alternative delivery models,

consumer life-styles, and health statistics. Integrates current trends in managed care, reimbursement, health policy and reform. Discusses infectious disease and nutrition. Allows for discipline-specific program development and implementation through HSC outreach efforts.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HAS 302 Promoting Health and Preventing Disease

Presents practical approaches and skills for promoting health and preventing disease. Introduces strategies that health professionals can incorporate into their professional practices as well as their personal lives.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 303 Drug and Alcohol Education

Offers specific information on the psychological and physiological effects of substance use and misuse. Introduces responsible decision-making strategies regarding alcohol and drug use (licit and illicit) and provides educational methods in these areas.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 305 Overview of Human Sexuality for the Health Care Professions

Provides health care professions students with an overview of human sexuality, focusing on the relationship between health, disease, and human sexuality. An opportunity for each student to identify any issues that may be of special concern for the profession for which she or he is preparing. Sexually explicit material is used in the course.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 306 Human Sexuality

Presents psychosexual development, sex myths, male and female sexual behavior, paraphilia, alternate life styles, contraception and sexually transmitted disease, sexual dysfunction, and sex therapy in a lecture-discussion group format. Admission by permission of instructor.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HAS 320 Medical Aspects of Nutrition

Introduces human nutritional needs and the changing requirement during the life cycle. Explores controversies surrounding nutrition.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 329 Introduction to Patient Education

Provides an overview of the concept of patient education. Considers current trends and related research regarding the planning of patient education programs in hospitals and other health care organizations.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 332 Management Concepts for Health Professionals

Identifies coping strategies with bureaucracies as agent, participant, and consumer. Considers the human dimensions of personnel, financial and materials management as related to the service functions of health agencies.

Prerequisites: Admission to Undergraduate Health Sciences Center program
Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 333 Group Dynamics for Health Professionals

Assists students in improving interpersonal interactions. Structured exercises illustrate principles of interpersonal relations and group dynamics. Specific attention to health-related work experiences.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 335 Medical Ethics

Examines ethical and legal considerations in health practice including health law, consent, malpractice, regulation of health practice, professionalism, professional codes of ethics, and ethical dilemmas.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 340 Perspectives on Dying and Death

Presents selected legal, moral, and medical issues that relate to dying and death. Provides opportunities for students to gain an awareness of how personal, professional, and societal values affect the care of the terminally ill and to explore methods of providing support to these patients and their families.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 350 Introduction to Statistics

Discusses elements of biostatistics, graphs and tables, descriptive statistics, probability, populations of samples, normal distribution, hypothesis testing, and computers.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HAS 351 Research Literacy/Research Design

Prepares students to perform a literature search in their respective disciplines to find scientific and health articles and books in the Health Sciences Center Library. Presents research terminology, methods, and design. Provides basic skills to enhance interpretation, evaluation and analysis of research articles, including the hypothesis, literature review, design, methodology, and data analysis.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 363 Computer Literacy for Health Professionals

Surveys the uses of computers for health practitioners. Offers practical experience in literature database searching and use of applications software. Introduces the medical uses of computers.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 368 AIDS/Infectious Disease

Examines AIDS within the context of interpersonal and developmental issues which concern young adults: sexuality, substance abuse, autonomy, sexual identity, decision making and formation of values. Examines the risk of infection and the responsibility of group health care providers and explores issues of confidentiality, fear of casual contact, homophobia, addictophobia, and erotophobia.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 391 Readings in Health

Supplementary specialized readings under faculty supervision. Topics determined by mutual agreement between undergraduate student and faculty and must have the approval of the Research and Directed Study Committee of the School of Health Technology and Management prior to registration.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 - 3 credits, Tutorial

HAS 393 Caring for the Elderly

An introduction to gerontology. Emphasizes sensitivity to health and sociological issues unique to the elderly.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 399 Independent Study in Health

A special project involving advanced readings, reports, discussions, research, or special course work on topics or problems of the student's choosing, with the guidance of an assigned faculty member. Projects must have the approval of the Research and Directed Study Committee of the School of Health Technology and Management prior to registration.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 - 6 credits, Tutorial

HAS 430 Health Economics

Introduces basic economic concepts related to the health field. Analyzes issues such as labor shortages and productivity, consumer demand, hospital inflation, and the impact of insurance on costs and utilization of health services. Emphasizes cost-benefit analysis as a useful tool when allocating resources and considering alternative delivery systems in the health field.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAS 490 Research Tutorial

An original research project is conducted.

Prerequisite: HAS 351.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Tutorial

HAS 498 SHTM FT ENROLMT FALL

For students who are maintaining matriculation before the start date of the HSC program.

12 credits, Lecture
S/F graded.

HAS 499 SHTM FT ENROLMT FALL

For students who are maintaining matriculation before the start date of the HSC program.

12 credits, Lecture
S/F graded.

Graduate Courses

HAS 500 SHTM Advanced Standing

Place holder credits for Health Technology and Management students.

Prerequisite: Admission to Graduate Health Sciences Center Program

0 - 9 credits, Lecture

Letter graded (A, A-, B+, etc.).

May be repeated 2 times for credit.

HAS 501 Autism Spectrum Disorders

Provides educators a comprehensive overview of autism and related disorders. Extensive literature review explores manifestations at varied developmental, intellectual levels across the age span. Includes current theories of causality, Asperger's syndrome and other pervasive developmental disorders. Examines educator's role in therapeutic interventions. NOTE: not to be taken for credit in addition to HAS 192

Prerequisite: Admission to Graduate Health Sciences Center Program

3 credits, Lecture

Letter graded (A, A-, B+, etc.).

HAS 502 Behavioral Intervention for Students with Autism

Provides educators with comprehensive framework to develop and implement behaviorally based instruction for children with autism spectrum disorders. Explores variables that control learning in instructional environments. Students will develop expertise in behavior analytic intervention strategies that facilitate acquisition, maintenance and generalization of skills. Involves a minimum of five hours per week of experiential work at sites that provide services for children with autism. NOTE: not to be taken for credit in addition to HAS 292

Prerequisite: Admission to Graduate Health Sciences Center Program

3 credits, Lecture

Letter graded (A, A-, B+, etc.).

HAS 503 Issues, Trends and Challenges in Nutrition
Analyzes and integrates current trends and issues in food and nutrition. Evaluates complementary and alternative forms of medical nutrition therapy, functional foods and nutraceuticals. Examines evidence regarding efficacy, safety and cost of new products. Discusses applications in practical professional settings.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 506 Food and Nutrition Policies
Introduces health care professionals to existing food and nutrition policies, the types of data that these policies are based on and the process by which they are developed. Offers skills needed to critically analyze the process and resulting policies, and those used in developing new policies and securing funds for such projects.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 507 Fundamentals of Nutrition Policy and Management
This course is designed for nutritionists who want to develop effective management skills in the food service and clinical areas. Case studies, problem-based learning scenarios, and role-playing scenarios will complement lectures and provide students with an opportunity to problem solve and apply information acquired. Personnel issues, cost containment and management principles pertinent to clinical and good service functions will be discussed and applied to real life situations. Reviews safety and sanitation procedures with practical applications. The survey process and accreditation standards will be covered.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 513 Health Care and Older People
Course is designed to maximize a student's understanding of policy and administrative issues in delivering health care to older people. Highlights examples of policy directions on the national, state and local levels and the practical application of administrative tools in managing health facilities mandated for older people.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 515 Measurement and Evaluation in Health Professions Education
Explores issues of measurement and evaluation in educational institutions. Emphasizes approaches to testing, types of instruments, reliability, validity, and item analysis, and examines methods and approaches to evaluation of research.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 516 Health and the Aging Process
An overview of information and issues pertinent to physical and psychosocial health of aging Americans. Includes demographics, attitudes, physiological and psychological changes, health promotion, disease prevention, health care delivery settings, and ethical and legal issues.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 518 Women and Health Care
This course provides an overview of women as users and providers of health care in the United States. Attention is given to women as active participants in their health care today as compared to historical times when women were encouraged to be passive. Throughout the course, case studies are introduced to demonstrate the contemporary utilization patterns of health care by women, including the use of managed care companies, women's public health agencies and grassroots health organizations. In addition, a number of issues are addressed regarding the role of women in providing health care, specifically from a public health management perspective. The course includes examples and

presentations of national and regional women's health concerns, such as breast cancer, reproductive choices, heart disease, tobacco use, menopause-related issues, and domestic violence. Special populations are also discussed as they relate to women and health care, including adolescents, older women, homeless women, working women, care-taking women and middle-class uninsured women. Traditional and alternative health care strategies are offered as acceptable methods for meeting the growing and changing needs of women presently and in the future.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 523 Occupational Safety and Environmental Health
Designed to provide students with an in-depth understanding of occupational and environmental public health issues including the effects that biological, chemical and physical factors have on the community's health. Specific topics addressed are lead poisoning, chemical toxins, asbestos, OSHA, EPA, child labor, infectious diseases and ergonomics.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 525 Complementary and Alternative Medicine
Examines the theory, philosophy and applications of complementary and alternative medicine within today's health care system. Presents the many alternatives to traditional Western or allopathic medicine, and how these various models, systems and therapies impact on the delivery of health care in the United States. Addresses skills needed to best respond to consumers' requests for information about these approaches. Students will examine the current body of research available on complementary and alternative medicine and be introduced to the vast array of resources available, the type of training involved in license/certification, and how to incorporate these approaches into their clinical practices. This course will combine lecture, readings, speakers, independent research and some experiential, hands-on work.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 526 Community Mental Health
Provides a critical examination of the mental health system as it has evolved in the United States. Focuses on the service delivery system: how it has developed, what it is today and where it is going. Deals with the mental health system as a business: how it operates, how it is funded, who it employs and how it will develop in the new managed care environment.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 527 Principles and Practice of Public and Community Health
Provides an overview of the public health system, the philosophy and purpose of public and community health, the managerial and educational aspects of public health programs, how the public health sector responds to disease prevention, environmental issues, community public health provisions and other core public and community health components. The impact of federal health care reform on the public health delivery system and the economic and fiscal implications of the system on state and local governments will be discussed. Students will analyze the critical elements of a health care system.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 528 Long Island's Community Health
Provides students with an overview of community health concerns of Long Island and information and resources for addressing them. Presents conditions which are associated with special populations such as the Native Americans, baymen, homeless, migrant workers, rural residents, urban residents, and the uninsured middle-income residents. Community health problems with high incidence on Long Island including breast cancer, Lyme disease, AIDS, and tuberculosis will be covered. Reviews Long Island's environmental health problems with

special emphasis on those associated with drinking and swimming water, agriculture, pesticides, and transportation. Discusses and presents the community health care delivery system and model programs and resources.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 529 Community and Patient Education

Provides information on current trends in patient education program development. Emphasizes techniques used by health professionals in planning, implementing and evaluating patient education programs in hospitals and other health care organizations concerned with the educational component of patient care.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 530 Health Care Operations

Addresses the operations within health care institutions from the macro to the micro levels of management. Analyzes philosophy and significant occurrences affecting health care operations in the past, present, and future. Divisions within health care operations (clinical, support and informational services, nursing, finance, and ambulatory care) will address the following aspects of management: financial forecasting and monitoring, staffing, employee productivity and morale, customer service, cost containment, decision making, total quality management, and managed care. Emphasizes hospital operations, and presents nursing home and community health care center operations.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 533 Communication and Group Dynamics

Assists students in understanding and improving interpersonal communication skills through structured exercises in speaking, writing and interacting. Emphasizes leadership skills in group interactions especially in the health care fields.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 534 Fundamentals of Health Care Management

Provides students with a realistic knowledge of management, not only the theories and techniques, but the ways in which they are worked out in practice. Emphasizes the essentials of management pertinent to practicing managers, e.g., organizational profiles, political and power relationships, planning, organizing, staffing, directing, leading, controlling and evaluating. Looks at essentials as a system interacting with the manager's total environment - economic, technological, social, political and ethical.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 535 Essentials of Health Care Finance

The course is designed to introduce the student to those types of financial decisions that health care executives are most likely to be involved with, and to provide material that will help them understand the conceptual basis and mechanics of financial analysis and decision-making as it pertains to health care.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 536 Health Law

Acquaints students with the general applicability of law to the health field and the health delivery system. Covers specific areas of laws (including statutory law, common law and rules and regulations) applicable to and controlling the operation of hospitals, long-term care facilities, medical practices, health professional practices and other institutions and individuals involved in the delivery of health care. Identifies legal problems affecting the delivery of health care and addresses problems encountered by institutions and individuals.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 537 Resource Management: Planning and Budgeting
Describes the external forces that affect health care agency operation, increasing evolution of laws, agency regulations, and controls that apply to health organizations. Includes elements of planning and budgeting that apply to the internal functioning of health care institutions. Emphasis on development of management ability and departmental relationship to the total agency's activities.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 538 Health Economics and Public Policy

Presents an in-depth analysis of the effects of economic principles on health care and the effect of health policy and economic forces on the health care delivery system. Examines the ways in which these concepts may be used to analyze health policy and improve the delivery of health care services. The effect of changes in market forces, human resources needs, formation of integrated delivery systems, health promotion initiatives and the impact of technology will be studied.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 539 Strategic Planning for Health Programs, Facilities and Networks

Conveys to prospective and current health program managers the fundamentals of strategic thinking and planning and the integration of these processes into executive management functions. Prepares prospective and current managers to fulfill their roles and responsibilities within a dynamic, changing medical marketplace where health care entities are undergoing a major paradigm shift, changing from independent organizations that provide illness-focused episodic care to networks and systems of entities that address the health care needs of populations over entire lifetimes.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 541 Organization and Institutional Management in Health Services

Designed for health services organization managers. Provides exposure to varied theories of organization and management to prepare students to predict and explain organizational and managerial actions and responses relative to public policy. Readings focus on four major themes: organization/environment relationships, organization complexity, strategic management, and the significance of economic theory in understanding organization and systems behavior.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 542 The Political Setting of Public Health Policy and Management

Examines the influences and effects of politics on the implementation of health policy at Federal, state and local levels of government. Analyzes the roles and consequences of various governmental and social entities involved in policy implementation including structure and process. Reviews outcomes of selected public policies within the legislative or administrative context.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 543 Health Policy

Provides students with an overview of health care policy making principles. Specific policy formats will be analyzed using examples of local and national policies. Students will learn to develop selective health policies using case studies.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 544 Principles of Managed Care

Provides an in-depth understanding of the meaning of managed care in the context of the United States health care system. Reviews the history, components and various organizational forms of managed care systems. Potential benefits, inherent limitations, and the legal, social

and ethical implications of managed care as a health care delivery system will be discussed.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 545 Ethics and Health Care

Provides an overview of ethics in health care in a rapidly changing society. Teaches students to approach ethical dilemmas using theoretical frameworks and decision making processes. Explores ethical issues surrounding health care reform and public health policy and includes distribution of resources and rationing of services. Introduces students to the ethical perspectives of euthanasia, reproduction, transplants, and HIV/AIDS through case studies. Reviews classic cases in health care ethics and their shaping of health policy. Discusses patient education and professional codes of ethics and standards.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 547 Grantsmanship in the Health Professions

Introduces the grantsmanship process, in both Federal and private domains. Focuses on research, design, preparation, and submission of grant applications.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 550 Statistics and Data Analysis

Teaches the use of descriptive statistics such as means, medians, standard deviations and histograms to report results of experiments. Illustrates how inferences can be made from hypothesis testing and regression analysis. Includes analysis of the validity and appropriateness of statistical techniques employed by researchers in the health field.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 551 Research Design

Develops skills in writing and testing hypotheses and research questions using the Health Sciences Center Library computers to do searches and literature reviews, designing research protocols and critically analyzing research publications.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 554 Marketing in Health Services

Provides an introductory explanation of marketing as a requisite component of modern business. While presenting the basic principles and general philosophies of marketing, the course concentrates on the importance of marketing in health care service delivery in a managed care environment.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 556 Outcome Measures and Continuous Quality Improvement (CQI) in Health Care

Reviews the conceptual and statistical development of outcome measures in a variety of health care settings including health care delivery situations and health policy considerations. CQI principles will be developed, and outcome measures will be illustrated. Appropriate statistical methods will be introduced. Prerequisite HAS 550 or MGT 515.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 557 Planning and Evaluating Health Programs

Prepares students to conduct needs assessments of various diverse populations and to plan, implement and evaluate programs to meet the needs. Plans include detailed goals, behavioral objectives, methods, resource and budget allocation, including grant and contract considerations.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 558 Epidemiology and Health Policy

Presents the concepts, principles and application of epidemiology through the use of public health case studies. Examines the distributions and determinants of disease, human morbidity and mortality, the characteristics of populations and the biological bases of health and disease. Prerequisite: HAS 550

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 562 Teaching Strategies for Health Professionals

Examines selection and use of teaching strategies including group discussions, lectures, workshops/demonstrations, simulations, workbooks, self-instructional materials, and audiovisual resources. Includes problem-solving and classroom practice. Requires selection and development of an individual teaching problem or project for presentation, discussion, and evaluation.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 563 Computer Case Studies in Health Care Management

Examines problem solving in health care management through the application of personal computers and case studies. Prerequisite: Knowledge of spreadsheets

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 564 Health Information and Communication Systems

Course acquaints students with the types of information systems available in health care and their applications to health care delivery. Includes an overview of various health care networks, patient centered information systems, and imaging systems. Reviews system platforms, electronic medical records and computer assisted instruction. Students discuss the integration of health information systems with communication systems such as E-mail, fax, pagers and wireless telephones. Through the use of classroom demonstrations and site visits, students gain hands-on experience with several health related information and communication systems.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 568 HIV/AIDS: A Continuing Societal and Medical Challenge

Examines the social, psychological and medical issues of the HIV/AIDS epidemic in relation to the concerns of health care professionals and educators. Explores and assesses how personal values and attitudes impact on the delivery of health care and/or educational programs. This is offered as both CEM 568 and HAS 568.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 570 Business Aspects of Managed Care

Introduces the students to and expands on their knowledge base of the business and financial aspects of the managed care delivery system. Trends in the financing of health care will be explored, as well as the practical application of developing and writing a formal business plan.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 571 Issues in Health Care Management

The course is designed to introduce the student to current trends in the United States health care system, including trends in medical-legal issues, labor relations, cost accounting and managed care. Models of progressive programs and health care delivery systems will be reviewed and discussed.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 572 Ambulatory Care Management
Familiarizes the student with areas of ambulatory care management. Identifies national and local trends and practical applications needed to administer outpatient care programs and facilities.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 575 Nursing Home Administration
Enhances the student's understanding of health care options for the elderly, the existing system of long term care delivery and particularly, the administrative aspects of operating a nursing home. The course will include actual exposure to clinical and operational departments in a nursing home and their roles in the interdisciplinary process. It will also include a review of the rules and regulations governing nursing homes in New York State and the financial implications and reimbursement methodologies that impact upon them.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 576 Workplace 2010
Provides an overview of issues affecting the American workplace in the future through the year 2010. Expected working conditions, human resources, schedules and technology are explored as students learn how to plan for advances and changes in the health system. Through the use of case studies, introduces students to early experiments in organizational evolution and resulting applications to the health care environment. Discusses issues related to diversity, team building and employee education.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 577 e-Healthcare: e-Commerce and e-Care
Introduces students to e-trends and their impact on healthcare. Revisits the traditional models of healthcare delivery and disease management. Introduces students to the evolution of e-care models. Addresses the use of the Web in healthcare organizations, hospitals, medical offices and pharmaceutical companies. Includes e-business strategies, planning and development, e-health and law concepts related to e-services in healthcare.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 578 Leadership in Health Care
Focuses on the future role of the leader in the emerging society of organizations. Draws on lessons learned from the past, in both theory and practice. Examines the impact of leadership on the future quality of life, business, learning institutions and society. Defines difference between management and leadership skills and strategies for balancing and developing each skill set.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 579 Advanced Seminar in Health Policy
Analyzes the principle of health policy-making. The goal of the session is a complete health policy statement/paper deliverable to the appropriate policy-maker/legislator. Students will have round table discussions of general public health topics and develop their own health policy project.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 580 International Seminar
Compares United States health care systems with those in another country. Includes visits to health facilities, educational institutions, and agencies. Focuses on health promotion and disease prevention in that country as compared to United States programs. Lectures and seminars by SHTM faculty and faculty of participating foreign universities.
Prerequisite: Admission to Graduate Health Sciences Center Program
1 - 4 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 582 Seminar in Curriculum Design
Discusses problems and processes of curriculum design in the health fields. Includes developing a rationale for curriculum design, components and levels of educational design, implementation problems, and evaluation for curriculum improvement.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 583 Scientific Writing for Thesis and Publication
Provides basic skills and information to plan, research and execute the writing of a scientific abstract, thesis outline, research proposal; and develop current literature and raw data into a form for written presentation to support or refute a hypothesis. Focuses on scholarly writing and deductive logic, using scientific data (whether from the literature or the research data book) to support an argument. Permission of instructor required.
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAS 584 Practicum: Community Health Education
Open only to degree candidates in the community health planning and education track. Allows student to test, under supervised circumstances, ability to apply theory learned in program courses to the experience of teaching in the health field.
Prerequisite: Admission to Graduate Health Sciences Center Program
1 - 6 credits, Required but Unsupervised, Tutorial
Letter graded (A, A-, B+, etc.).

HAS 586 Practicum: Health Professions Management
Open only to degree candidates in the management track. Allows student to apply theory learned while functioning as a manager in health practice.
Prerequisite: Admission to Graduate Health Sciences Center Program
1 - 6 credits, Required but Unsupervised, Tutorial
Letter graded (A, A-, B+, etc.).

HAS 588 Practicum: Health Policy
Open only to degree candidates in the research track. Allows student to apply and demonstrate knowledge of research methodology by either conducting or participating in a major research effort under the supervision of an experienced researcher.
Prerequisite: Admission to Graduate Health Sciences Center Program
1 - 6 credits, Required but Unsupervised, Tutorial
Letter graded (A, A-, B+, etc.).

HAS 590 Independent Study
Independent study proposals in health sciences. Must have the approval of the Research and Directed Study Committee of the School of Health Technology and Management prior to registration.
Prerequisite: Admission to Graduate Health Sciences Center Program
1 - 6 credits, Required but Unsupervised, Tutorial
Letter graded (A, A-, B+, etc.).

HAS 591 Independent Readings
Supplementary specialized readings for graduate students under faculty supervision. Topics include but are not limited to: community and public health, mental health, health policy, health care management, health care ethics, gerontology, patient education and health economics and policy. Approval must be obtained from the Research and Directed Study Committee of the School of Health Technology and Management prior to registration.
Prerequisite: Admission to Graduate Health Sciences Center Program
1 - 3 credits, Required but Unsupervised, Tutorial
Letter graded (A, A-, B+, etc.).

HAS 598 Thesis Seminar
Complements thesis research. Includes presentation by degree candidate of research purpose, methodology and findings and culminates in presentation and discussion of final results.
Corequisite: HAS 599
Prerequisite: Admission to Graduate Health Sciences Center Program
1 credit, Required but Unsupervised, Tutorial
Letter graded (A, A-, B+, etc.).

HAS 599 Thesis Supervision

Topic, statement of intent, and thesis committee membership must be approved prior to registration.

Corequisite: HAS 598

Prerequisite: Admission to Graduate Health Sciences Center Program

4 - 6 credits, Required but Unsupervised, Tutorial

Letter graded (A, A-, B+, etc.).

Division of Diagnostic and Therapeutic Sciences

Department of Clinical Laboratory Sciences

Chair: Kathleen Finnegan

Professors: Craig A. Lehmann, Martin H. Rosenfeld (emeritus), George T. Tortora

Associate professors: Edward J. Briglia, Ronald Malowitz, Maria Reitano, Sylvia G. Spitzer

Assistant professors: Donna D. Castellone Jeannie M. Eberhardt, Kathleen Finnegan, Deborah T. Firestone, Candace J. Golightly, Mary Hotaling, Christopher M. Picken, Vivien A. Soo, Marie I. Tsvivitis

Instructors: Robert J. Borley, Joseph Moreschi, Christine A. Munz, Alfred Palma, Todd P. Rueb, Danielle V. Schortzmann-Wilken

Program in Clinical Laboratory Sciences Leading to the Bachelor of Science Degree

Program Director: Kathleen Finnegan

Medical advisor: Jay Bock

The department of clinical laboratory sciences offers an upper-division program leading to the Bachelor of Science degree. Stony Brook freshmen are given the option to declare clinical laboratory sciences as a lower-division major. A double degree program in clinical laboratory sciences and biology is available. Clinical laboratory scientists utilize a wide variety of sophisticated equipment and skills, to perform tests that analyze specimens to produce data for the diagnosis, prevention and treatment of disease. Many of the same tests are used for organ transplants, therapeutic drug monitoring, crime investigation, genetic studies and research. The program now offers three expansion tracks (Forensic Medical Diagnostics, Laboratory Information Systems and Diagnostic Instrumentation) within its traditional clinical laboratory curriculum. The majority of clinical laboratory scientists work in hospital laboratories, however, many job opportunities exist in research and development, industry, sales and technical services, health departments, computer firms and others. Competitive salaries, career advancement, and a versatile background make the clinical laboratory professional well-equipped to enter a variety of scientific fields.

The program is accredited by the National Accrediting Agency for Clinical Laboratory Science (NAACLS).

In addition to the baccalaureate degree, the school's Certificate of Professional Achievement in Clinical Laboratory Sciences is awarded upon satisfactory completion of all required course work.

Admission Requirements

Candidates for the clinical laboratory sciences program must meet the upper-division admission requirements of the School of Health Technology and Management. The requirements may be fulfilled through previously completed college studies.

In addition to the general academic requirements for junior status in the School of Health Technology and Management, the department of clinical laboratory sciences requires candidates to meet the department's natural science requirement by successfully completing 8 hours of biology and 12 credit hours of chemistry with laboratories (including one course in organic chemistry).^{*} In order to be eligible for admission to the expansion tracks, students must complete all the requirements for the Clinical Laboratory Sciences degree and the applicable requirements associated with the individual tracks. Additional prerequisites for the Forensic Medical Diagnostics tract include chemistry (one additional credit for a total of 13 credits) and a genetics course for science majors. The Laboratory Information Systems track recommends an Introduction to Computer Science course (CSE 110 or equivalent) as an additional prerequisite. A basic electronics course is highly recommended as an additional prerequisite for the Diagnostic Instrumentation tract.

The department strongly recommends courses in general microbiology, genetics and biology involving a molecular approach.

Stony Brook freshmen are able to declare a lower division clinical laboratory sciences major as freshmen. To advance to junior status, they must meet the requirements described above and successfully complete HAD210 with a grade of B+ or higher.

Program Requirements

Clinical laboratory sciences students must complete the core and elective course requirements of the School of Health Technology and Management. In addition, specific academic policies of the program specify that each basic science course (HBC 331, HBY 350 and HBP 310), and all professional (HAD) courses, must be successfully passed in order to remain matriculated in the program. All professional (HAD) courses with a laboratory component must be passed with a grade of "C-" or better to remain matriculated in the program. The following courses must be successfully completed in order to graduate.

Basic Science Courses/Other Health Technology and Management Courses (Junior and Senior Year)

Course	Title	Credits
HAS 332	Management Concepts for Health Professionals	1
HAS 351	Research Literacy/Research Design	1
HAS 490	Research Tutorial	2
HBC331	Introductory Biochemistry	4
HBP 310	Pathology	3
HBP 401	Immunology	3
HBY 350	Physiology	4

Professional Courses (Junior Year)

Course	Title	Credits
HAD 313	Clinical Biochemistry I	3.5
HAD 315	Hematology I	4
HAD 316	General Microbiology	2
HAD 317	Medical Microbiology	2
HAD 330	Foundations in Phlebotomy	1.5

^{*}A conditional acceptance may be granted if, upon the judgment of department faculty, there are exceptional circumstances concerning department prerequisites.

HAD 340	Foundations in Clinical Laboratory Sciences	1.5
HAD 363	Computer Applications in Clinical Laboratory Sciences	2
HAD 380	Clinical Microbiology I	2.5
HAD 381	Clinical Microbiology II	2.5
HAD 397	Clinical Microbiology Practicum*	6
HAD 398	Clinical Hematology Practicum I*	3

Professional Courses (Senior Year)

Course	Title	Credits
HAD 403	Medical Molecular Biology	2.5
HAD 411	Clinical Biochemistry II	2.5
HAD 412	Clinical Biochemistry III	2
HAD 414	Coagulation, Urinalysis and Body Fluids	4
HAD 416	Immunohematology	3.5
HAD 425	Parasitology/Mycology	3.5
HAD 432	Pharmacology	1
HAD 460	Clinical Laboratory Quality Management	1
HAD 493	Advanced Seminar in Clinical Laboratory Sciences	2
HAD 494	Clinical Chemistry Practicum*	4
HAD 496	Histocompatibility Practicum (elective)	1
HAD 497	Immunohematology Practicum*	3
HAD 498	Clinical Coagulation/Urinalysis/Body Fluids Practicum*	1

Track Courses

Forensic Medical Diagnostics		
HAD 435	Seminar in Forensic Biology	1
HAD 438	Forensic Biology Clinical	1
HAD 439	Forensic Toxicology Clinical	3
HAD 440	Forensic Science Practicum	3.5
HAD 445	Topics in Toxicology	1.5
Diagnostic Instrumentation		
HAD 352	Introductory Electronics and Test Equipment	2
HAD 453	Electronic Troubleshooting	2
HAD 458	Diagnostic Instrumentation Internship	2

Laboratory Information Systems

Contact the clinical laboratory science department for specific course list.

Courses

All basic sciences, professional and other required courses must be passed in order to graduate.

HAD 210 Introduction to Clinical Laboratory Sciences
Defines basic clinical laboratory sciences terminology and application. Introduces the specialties within the clinical laboratory sciences profession including microbiology, hematology, chemistry, immunohematology, and immunology and their roles in patient care. Reviews professional organizations and licensures. Examines employment opportunities. Visitation of clinical laboratories included.
1 credit, Lecture

HAD 304 Introduction to Criminalistics
Introduces the student to forensic science. Describes the interesting and diverse disciplines that comprise the field of investigation of evidence for criminal and civil investigations.
1 credit, Lecture

*Clinical practice consists of full-time clinical instruction and practice at the clinical affiliates and other affiliated patient-care facilities.

HAD 310 Clinical Lab Practice

Lecture and laboratory exercises in general clinical laboratory practice. Topics include general hematology, coagulation, urinalysis, blood banking, and clinical chemistry. For health professions students not enrolled in the clinical laboratory sciences program.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture, Laboratory

HAD 313 Clinical Biochemistry I

Examines the physiological, biochemical and mathematical relationships involved in the establishment and utilization of laboratory procedures in the clinical laboratory. Exercises cover laboratory mathematics, principles of routine clinical chemistry methods of analysis and the clinical significance of routine clinical chemistry analytes.

Prerequisite: Admission to Undergraduate Health Sciences Center program
3.5 credits, Lecture

HAD 315 Hematology I

A comprehensive study of the human hematopoietic system and its relationship to other organ systems. Includes morphological and biochemical relationships of erythropoiesis and leukopoiesis in healthy vs. disease states, as well as the performance and application of current methods in hematologic analysis, and technology.

Prerequisite: Admission to Undergraduate Health Sciences Center program
4 credits, Lecture, Laboratory

HAD 316 General Microbiology

Presents the biology of eucaryotic and procaryotic microorganisms as well as consideration of microbial form, structure, function, physiology, metabolism, growth and genetics. Some applications of microbiology considered, including dairy, food and water bacteriology.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HAD 317 Medical Microbiology

Studies the nature and epidemiology of infectious disease and the role of microorganisms in health and disease. Includes the clinical effects of microbial infection on the human host. *Prerequisite:* HAD 316

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HAD 319 Medical Microbiology for Physician Assistants

Studies microorganisms involved in health and disease and their relation to the host. Emphasizes microorganisms commonly encountered by physician assistants in clinical practice.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAD 330 Foundations in Phlebotomy

Introduces the student to the theory, principles and procedures of blood collection. Course is divided into a didactic portion for theory and principles of blood collection and a laboratory portion for blood collection procedures and techniques.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1.5 credits, Lecture, Laboratory

HAD 340 Foundations in Clinical Laboratory Sciences

Introduces the student to important issues in clinical laboratory sciences. Addresses personal and professional developments facing the clinical laboratory scientist. Includes the performance of basic laboratory techniques.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1.5 credits, Lecture
S/F graded.

HAD 352 Introductory Electronics and Test Equipment

Introduces students to introductory electronics and electronic test equipment. Includes basic current and voltage theory; electronic com-

ponents (i.e., resistors, capacitors); parallel and serial network transistor theory; operational amplifiers; digital components; basic microprocessors; digital computers and electronic test equipment.
Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HAD 363 Computer Applications in Clinical Laboratory Sciences

Acquaints the student with the use and application of basic computers and laboratory information systems in the clinical laboratory. Includes utilization and multiple functions of the computer in the medical laboratory. The laboratory component of the course provides practice with various software applications utilized in the clinical laboratory.
Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture, Laboratory

HAD 380 Clinical Microbiology I

Lectures on the morphologic and biochemical differentiation of commonly isolated microorganisms in the clinical laboratory as well as the biochemical basis of all media, reagents, tests and antimicrobials used in clinical microbiology. Simulated clinical laboratory includes practical experience in the isolation, identification and antimicrobial susceptibility testing of microorganisms commonly encountered. Includes morphologic, biochemical and serologic clinical laboratory techniques using microorganisms involved in human disease.
Prerequisite: Admission to Undergraduate Health Sciences Center program
2.5 credits, Lecture, Laboratory

HAD 381 Clinical Microbiology II

A continuation of HAD 380.
Prerequisite: HAD 380
Prerequisite: Admission to Undergraduate Health Sciences Center program
2.5 credits, Lecture, Laboratory

HAD 390 Independent Study in Diagnostic Technologies
Proposals for special projects involving advanced readings, reports and discussions, or research on selected topics must be submitted through the department chair to the Committee on Research and Directed Study for approval prior to registration for this course.
Prerequisite: Admission to Undergraduate Health Sciences Center program
1 - 6 credits, Tutorial

HAD 397 Clinical Microbiology Practicum

Full-time instruction and practice of laboratory procedures in clinical microbiology in an approved hospital laboratory for a six-week period. Practice in the proper techniques for processing specimens for the isolation and identification of bacterial, fungal, and parasitic organisms commonly encountered in infectious processes. Instruction and practice in appropriate techniques for antimicrobial susceptibility testing are included.
Prerequisites: HAD 317, HAD 380, HAD 381
Prerequisite: Admission to Undergraduate Health Sciences Center program
6 credits, Required but Unsupervised, Clinical

HAD 398 Clinical Hematology I Practicum

Full-time instruction and practice of laboratory procedures in hematology and special hematology in an approved hospital laboratory for a three-week period. *Prerequisite:* HAD 315
Prerequisite: Admission to Undergraduate Health Sciences Center program
3 credits, Required but Unsupervised, Clinical

HAD 403 Medical Molecular Biology

Provides an overview of the structure and function of genes. Includes theory and laboratory practice of diagnostic molecular biology techniques utilized in the clinical laboratory to analyze DNA.
Prerequisite: Admission to Undergraduate Health Sciences Center program
3 credits, Lecture, Laboratory

HAD 411 Clinical Biochemistry II

A continuation of HAD 313.
Prerequisite: HAD 313
Prerequisite: Admission to Undergraduate Health Sciences Center program
2.5 credits, Lecture

HAD 412 Clinical Biochemistry III

Covers the clinical significance and methods of analysis for special biochemistry analytes including hormones and metabolites, amino acids, trace elements and vitamins, porphyrins, etc.
Prerequisites: HAD 313, 411
Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HAD 414 Coagulation, Urinalysis and Body Fluids

A comprehensive study of the function and disorders of hemostasis and thrombosis and anticoagulant therapy. Laboratory diagnosis and laboratory applications are presented. Includes the fundamental principals of urine and body fluid analysis with correlation of laboratory methods and practice.
Prerequisite: HAD 398 and HAD 315.
Prerequisite: Admission to Undergraduate Health Sciences Center program
4 credits, Lecture, Laboratory

HAD 416 Immunohematology

Examines basic immunology, the human blood groups and blood group genetics, hemolytic disease of the newborn, transfusion therapy and current blood bank practice. Includes the performance of clinical laboratory techniques that are routinely performed in an immunohematology laboratory and the interpretation of results.
Prerequisites: HAD 315
Prerequisite: Admission to Undergraduate Health Sciences Center program
3.5 credits, Lecture, Laboratory

HAD 425 Parasitology/Mycology

Encompasses two specialty areas in clinical microbiology, parasitology and mycology. The first part of the course consists of a comprehensive study of parasites of human and related hosts with a special emphasis on those of medical importance. Host parasite relationships and the role of the parasite in pathogenesis are addressed in lecture. Laboratory exercises demonstrate current methods for identification of parasites of medical importance using prepared slides. The second part of the course consists of lecture and laboratory studies of fungi of medical importance. *Prerequisites:* HAD 381
Prerequisite: Admission to Undergraduate Health Sciences Center program
3.5 credits, Lecture, Laboratory

HAD 432 Pharmacology

Describes the basic concepts in pharmacology as they relate to the clinical toxicology laboratory. Presents principles and applications of therapeutics in clinical pharmacology.
Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAD 435 Seminar in Forensic Biology

Introduces general concepts of forensic science. Presents the recovery, examination and types of body fluids recovered as evidence in criminal cases. Describes methods to determine the source of questioned physiological material by identification of its biological nature. Introduces state of the art molecular biological methods (DNA testing) utilized to individualize the physiological material deposited at a crime scene. Examines correlations of methodology and theory between forensic science and clinical laboratory sciences.
Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAD 438 Forensic Biology Clinical

Provides basic working knowledge of forensic biological testing currently practiced in the criminalistics laboratory. Offers hands-on exper-

rience with molecular methods used to individualize body fluids deposited at a crime scene. Prerequisites: HAD 435, HAD 445 and permission of CLS faculty.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 - 5 credits, Required but Unsupervised, Clinical

HAD 439 Forensic Toxicology Clinical

Familiarizes students with instrumental methods of analysis and interpretation of data in a clinical toxicology laboratory. Prerequisites: HAD 435, HAD 445 and permission of CLS faculty.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 - 5 credits, Required but Unsupervised, Clinical

HAD 440 Forensic Sciences Practicum

Full time instruction and practice in a section of the medical examiner's office (e.g., forensic biology, forensic toxicology) to acquire hands-on experience with techniques utilized in the investigation of criminal activities. Prerequisite: HAD 435 and HAD 445 and permission of CLS faculty.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 - 5 credits, Required but Unsupervised, Clinical

HAD 445 Selected Topics in Toxicology

Familiarizes students with basic concepts of pharmacology and toxicology. Covers methods of analysis and interpretation of laboratory data.

Prerequisites: HBC 331 and HAD 432

Prerequisite: Admission to Undergraduate Health Sciences Center program

1.5 credits, Lecture

HAD 453 Electronic Troubleshooting

Introduces students to methods of troubleshooting electronic devices. Topics include essential principles and methods of electronic troubleshooting, test equipment, digital circuitry, sequential digital circuitry and principles, applications and procedures for repair of medical and therapeutic devices.

Prerequisites: HAD 352

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture

HAD 458 Diagnostic Instrumentation Internship

Full-time instruction and practice with electronic equipment and medical electronic devices, service repair and electronic troubleshooting.

Prerequisites: HAD 352, HAD 453 and permission of CLS faculty

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Required but Unsupervised, Clinical

HAD 460 Clinical Laboratory Quality Management

Introduces students to total quality managed environments and provides tools to affect quality management programs as their careers progress into leadership roles.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Lecture

HAD 468 Laboratory Information Systems Internship

Familiarizes students with responsibilities of a laboratory information systems (LIS) manager. Provides exposure to various operations involved with developing, maintaining and troubleshooting an LIS in the laboratory and medical informatics setting. Prerequisites: HAD 363; additional prerequisite track coursework, permission of CLS instructor.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Required but Unsupervised, Clinical

HAD 490 Independent Study/ Clinical Laboratory Sciences

Proposals for special projects in clinical laboratory sciences involving readings, research, and laboratory problems must be submitted

through the department chair to the Committee on Research and Directed Study for approval prior to registration for this course.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 - 6 credits, Tutorial

HAD 493 Advanced Seminar in Clinical Laboratory Sciences

Guided discussions of laboratory problems and case studies. Integrates all areas of clinical laboratory sciences for a comprehensive coverage of laboratory medicine.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture

HAD 494 Clinical Chemistry Practicum

Full-time instruction and practice of laboratory procedures in clinical chemistry and automation in an approved hospital laboratory. Prerequisites: HAD 313 and 411.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Required but Unsupervised, Clinical

HAD 496 Histocompatibility Practicum

Full-time instruction and practice to introduce and expose the student to various methodologies and instrumental techniques used in a histocompatibility laboratory.

Prerequisites: HBP 401, permission of instructor

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Required but Unsupervised, Clinical

HAD 497 Immunohematology Practicum

Full-time instruction and practice of laboratory procedures in immunohematology (blood banking) in an approved laboratory. Emphasizes laboratory techniques used in the identification and resolution of problems encountered in current blood bank practice.

Prerequisites: HAD 416

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Required but Unsupervised, Clinical

HAD 498 Coagulation and Urinalysis Practicum

Full-time instruction and practice of laboratory procedures in coagulation and urinalysis in an approved hospital laboratory. Prerequisite: HAD 414

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Required but Unsupervised, Clinical

HAD 499 Clinical Toxicology Practicum

Familiarizes students with instrumental methods of analysis in a clinical toxicology laboratory and the interpretation of laboratory data.

Corequisites: HAD 445, permission of instructor

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Required but Unsupervised, Clinical

HAD 590 I ndependent Study/ Clinical Laboratory Sciences

Proposals for special projects in clinical laboratory sciences must be submitted through the department chair and the Committee on Research and Directed Study for approval prior to registration.

Prerequisite: Admission to Graduate Health Sciences Center Program

1 - 6 credits, Tutorial

Letter graded (A, A-, B+, etc.).

May be repeated 2 times for credit.

HAD 596 Seminar in Immunohematology

For graduate clinical laboratory scientists involved with decision making in immunohematology. Includes the immune process, immunogenetics, perinatal immunohematology problems, unfavorable effects associated with transfusion, component therapy, and the administrative policy and practices of blood banking.

3 credits, Lecture

Letter graded (A, A-, B+, etc.).

Phlebotomy Training Program Leading to a Certificate

Program director: Kathleen Finnegan

The phlebotomy training program is a non-degree, non-credit ASPT (American Society of Phlebotomy Technicians) accredited program designed to train students in effective phlebotomy techniques. Phlebotomists can be employed in a variety of settings including hospitals, private laboratories and physician's offices. The program consists of 60 hours of lecture and 30 hours of professional laboratory practice followed by 100 hours of clinical training at a local hospital.

Admission Requirements

Applicants must be 18 years of age or older, have a high school diploma or equivalent and a minimum grade point average of 80 (on a scale of 100) or 2.5 (on a scale of 4.0). Upon successful completion of the program, students receive a certificate of achievement and are eligible to take a national certifying examination.

Program in Cytotechnology Leading to the Bachelor of Science Degree

Program director: David H.W. Bell II

Medical director: Alan Heimann

Associate professors: Era Khurana, Jelveh Ziba

Assistant professors: David H. W. Bell II, Kathleen A.M. DaSilva, Catherine M. Vetter

Instructors: Ina Chan, Emily H.G. Gu, Gary Maini

The program in cytotechnology offers an upper-division program leading to the Bachelor of Science degree. Cytotechnologists are skilled laboratory scientists who employ microscopic and other analytic methods to evaluate clinical biological cellular specimens for the presence of disease. Detecting changes in cells that may lead to early, life-saving treatment, cytotechnologists are employed as practitioners in hospital and private laboratories, and as researchers, managers and educators.

The School's Certificate of Professional Achievement and the university's baccalaureate degree are awarded upon satisfactory completion of all coursework.

This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), in conjunction with the Cytotechnology Programs Review Committee (CPRC) of the American Society of Cytopathology (ASC).

Admission Requirements

Candidates for the cytotechnology program must meet the upper-division admission requirements of the School of Health Technology and Management. The requirements may be fulfilled through previous college studies completed.

In addition to the general academic requirements for junior status in the School of Health Technology and Management, the program requires candidates to meet the school's natural science requirement by successfully completing 12 credit hours of biology, 8 credit hours of chemistry with laboratories and 3 credit hours of mathematics.

The program strongly recommends courses in genetics, cell biology, anatomy, general microbiology, organic chemistry, computer literacy, sociology and human sexuality.

Program Requirements

Cytotechnology students must complete the core and elective course requirements of the School of Health Technology and Management. In addition, the following courses are required:

Basic Science Courses/Other Health Technology and Management Courses (Junior and Senior Year)

Course	Title	Credits
HAS 332	Management Concepts for Health Professionals	1
HAS 351	Research Literacy/Research Design	1
HAS 490	Research Tutorial	2
HBA360	Regional Human Anatomy	3
HBC 331	Introduction to Biochemistry	3
HBV 350	Physiology	4

Professional Courses (Junior Year)

Course	Title	Credits
BIO 310	Cell Biology	3*
BIO 311	Techniques in Molecular Cell Biology	3*
HAD 316	General Microbiology	2
HAD 317	Medical Microbiology	2
HAD 380	Clinical Microbiology I	2.5
HTO 360	Current Trends in Cancer Management	2

* See University Undergraduate Bulletin

Professional Courses (Senior Year)

Course	Title	Credits
HTO 410	Microscopic Techniques	1.5
HTO 415	Basic Cytologic Diagnosis	3
HTO 416	Advanced Cytologic Diagnosis	3.5
HTO 425	Gynecologic Cytology	6
HTO 427	Non-gynecologic Cytology	4
HTO 428	Fine Needle Aspiration Cytology	2
HTO 431	Basic Specimen Preparation Techniques	2
HTO 432	Applied Cytology Techniques	2
HTO 480	Cytopathology Case Studies	2
HTO 482	Clinical Practicum	3**
HTO 484	Advanced Clinical Practicum I	5**
HTO 486	Advanced Clinical Practicum II	5**
HTO 488	Quality Review	1
HTO 490	Cytology Research	1
HTO 493	Issues in Cytopathology I	2
HTO 494	Issues in Cytopathology II	2.5

Courses

HTO 300 Cytotechnology Adv Stndng
Prerequisite: Admission to Undergraduate Health Sciences Center program
 0 credits, Lecture
 S/U grading.

HTO 360 Current Trends in Cancer Management
 Introduces current trends in cancer treatment and management. Examines the social implications of cancer treatment, such as insurance coverage, work capability and quality of life.
Prerequisite: Admission to Undergraduate Health Sciences Center program
 2 credits, Lecture

**Clinical practice consists of full-time clinical instruction and practice at the clinical affiliates and other affiliated patient-care facilities.

HTO 410 Microscopic Techniques

Familiarizes students with various types of microscopes to analyze biological material with emphasis on the light microscope. Presents appropriate uses and basic concepts of the scanning electron and transmission microscopes.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1.5 credits, Lecture

HTO 415 Basic Cytologic Diagnosis

Presents a systematic approach to the analysis of cytologic specimens. Involves case material of a routine and unusual nature. Students learn techniques of daily specimen slide screening. Requires students to prepare and deliver specimen case presentations based on cytodiagnostic criteria.

Prerequisite: Admission to Undergraduate Health Sciences Center program
3 credits, Lecture

HTO 416 Advanced Laboratory Diagnosis

A continuation of HTO 415, the course presents more complex material for cytologic diagnosis. Students develop advanced evaluator skills, specifically for non-gynecologic and fine needle aspiration specimens.

Prerequisite: HTO 415
Admission to Undergraduate Health Sciences Center program
3.5 credits, Lecture

HTO 425 Gynecologic Cytology

Presents histology, endocrinology, normal cytology, abnormal cytology, and disease processes of the female genital tract. Includes a review of female genital tract anatomy. Examines the biological processes seen under the microscope.

Prerequisite: Admission to Undergraduate Health Sciences Center program
6 credits, Lecture

HTO 427 Non-Gynecologic Cytology

Explores the anatomy, histology, normal cytology, abnormal cytology and disease processes that affect the cytology of the respiratory tract, gastrointestinal tract, central nervous system, body cavities and dermis. Examines the biological processes seen under the microscope with an emphasis on carcinoma. *Prerequisite:* HTO 425

Prerequisite: Admission to Undergraduate Health Sciences Center program
4 credits, Lecture

HTO 428 Fine Needle Aspiration Cytology

Explores the anatomy, histology and cytology of body sites. Emphasizes needle aspiration specimens such as central nervous system, breast, liver, pancreas, kidney, adrenal glands, lymph nodes, thyroid, salivary glands. Presents biological processes ranging from inflammation to neoplasia. Distinguishes normal cellular preparation from abnormal samples and addresses differential diagnosis. Requires extensive microscopic specimen evaluation.

Prerequisite: Admission to Undergraduate Health Sciences Center program
4 credits, Lecture

HTO 431 Specimen Preparation Techniques

Practical experience in the preparation of biological material for microscopic evaluation. Includes cell concentration and fixation techniques, staining procedures, specimen preservation, and quality control measures.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HTO 432 Applied Cytology Techniques

Students accompany and observe cytotechnologists and physicians during fine needle aspiration procedures. Familiarizes students with different types of specialized cell staining, specimen preparation methods beyond the routine and the diagnostic interpretation of these methods. Familiarizes students with the operation of specialized instrumentation related to diagnostic cytology. Emphasizes quality diagnosis.

Prerequisite: HTO 431

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Laboratory

HTO 450 Laboratory Management

Provides knowledge and skills to function optimally in, and guide the operation of, a cytology laboratory. Students will undertake an organizational plan for a cytology laboratory.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HTO 480 Cytopathology Case Studies

Introduces the students to diagnostic clinical material and the formal systematic evaluation leading to a final report. Discusses diagnostic agreement and review of clinical assessment. *Prerequisites:* HTO 425, 427

Prerequisite: Admission to Undergraduate Health Sciences Center program
3 credits, Laboratory

HTO 482 Cytology Practicum

Clinical instruction in a medical center/cytopathology laboratory. Emphasizes slide screening accuracy and speed, as well as fine needle aspiration, and specimen collection, preparation, interpretation and sign out. Students will observe and participate in fine needle aspiration procedures. *Prerequisite:* HTO 480

Prerequisite: Admission to Undergraduate Health Sciences Center program
4 credits, Required but Unsupervised, Clinical

HTO 484 Advanced Cytology Practicum I

Full-time instruction and practice in cytologic procedures and evaluations in an approved cytology laboratory for a five week period. *Prerequisite:* HTO 482

Prerequisite: Admission to Undergraduate Health Sciences Center program
5 credits, Required but Unsupervised, Clinical

HTO 486 Advanced Cytology Practicum II

A continuation of HTO 484. *Prerequisite:* HTO 484

Prerequisite: Admission to Undergraduate Health Sciences Center program
5 credits, Required but Unsupervised, Clinical

HTO 488 Quality Review

Discusses problems in cytology practice as presented by faculty and guest lecturers. Runs concurrently with Advanced Practicum and draws on relevant experiences.

Prerequisite: HTO 486

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HTO 490 Cytology Research

Allows investigation of a topic of choice in gynecologic cytology. Student, with faculty assistance, pursues the investigation, delivers an oral report, and submits a written report.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Tutorial

HTO 491 Cytology Project II

Involves a more in-depth study than HTO 490. Resulting paper is to be potentially publishable.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Tutorial

HTO 493 Issues in Cytopathology I

Discussion of areas of major interest in cytology, including medical and legal issues, ethics, government regulations, the role of specimen evaluation in health care management, and health care research as related to diagnostic cytopathology. Laboratory management issues, Journal Club and presentations from national meetings will be included.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HTO 494 Issues in Cytopathology II

Emphasizes Journal Club presentations and discussions of cytology automation, cancer epidemiology, patient management and changes in the health care system, and litigation related to cytotechnologists and the laboratory.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2.5 credits, Lecture

Radiation Therapy Program Leading to a Certificate

Program director: David LaBelle

Medical director: Allen G. Meek

Radiation therapy is a health profession involved in the use of various forms of ionizing radiation for treatments to patients with cancer. Under the supervision of a radiation oncologist (physician), a radiation therapist is directly responsible for the daily treatment of patients, which can last up to seven weeks, allowing for extensive patient interaction. The radiation therapist's tasks lie within three major areas of responsibility including treatment, patient support and interaction with the radiation oncology team to develop a treatment plan. The radiation therapist is an integral member of the team approach to quality patient care. Radiation therapists are utilized in hospitals, clinics, cancer care centers and private physician facilities.

The radiation therapy technology program is a non-degree, non-credit certificate program, accredited by the Joint Review Committee on Education in Radiological Technology (JRCERT). The program consists of 24 consecutive months of academic and clinical training. There are 500 contact hours of didactic instruction and 2000 hours of clinical practice which is divided among University Medical Center and two clinical affiliates. The curriculum is designed to provide students with the knowledge and cognitive skills necessary for competent performance as entry level radiation therapists.

Members of the faculty and staff consist of board certified professionals including radiation oncologists (physician), radiologists, medical physicists, medical dosimetrists, oncology nurses and teaching hospital radiation therapists.

Admission Requirements

Applicants must be eighteen years of age or older, have a high school diploma or equivalent and a strong background in math and science. Coursework from the high school level and/or college should include: science with a laboratory (chemistry, biology, etc.) and mathematics (algebra, trigonometry, and geometry). Applicants should have a minimum grade of 75 (on a scale of 100) or a letter grade "C" in each of the above mentioned courses. Applicants must make an appointment to visit a Radiation Oncology Department for at least a four-hour period to observe the tasks performed by a radiation therapist. A personal interview is also required.

Upon successful completion of the program, students receive a certificate of achievement and a temporary New York State license to practice radiation therapy and become eligible to sit for the national registry examination administered by: The American Registry of Radiologic Technologists (ARRT). The New York State license becomes permanent after candidates pass the ARRT examination.

Program in Respiratory Care Leading to the Bachelor of Science Degree

Program director: James A. Ganetis

Medical director: Gerald Smaldone

Clinical education director: Lisa M. Johnson

Associate professors: Edgar L. Anderson, Jr. (emeritus), William J. Treanor (emeritus)

Assistant professors: Kenneth L. Axton Jr., Ingrid Bozeat, Vincent P. Caruso, James A. Ganetis, Joseph P. Hock, Kenneth W. Hughes, Michael McPeck, James M. O'Connor, Thomas R. Smalling, Stephen G. Smith, Patrick Vignona
Instructors: Cori Abbondanza, Jeffrey Adelman, Susan Andersen, Christian Becker, Patricia J. Berkoski, John Brittelli, Edward Carito, Jennifer Caulfied, Kevin Caulfied, Luis E. Cifuentes, Andrea Coombs, Edwin L. Coombs, Albert Mario Corso, Lisa Endee, William L. Ericsson, Gloria Hoerning, Roseann S. Hundertmark, Joanne Jacobsen, Lisa M. Johnson, Robert N. Jones, Elliot D. Karp, Harold A. Lanni, Deniese S. LeBlanc, Andrew J. Lee, Laurie Lenox, Wendy Ann Linder, Jane Luchsinger, Salvatore J. Maida, Carol A. Marlborough, Carolyn McCarthy, Donna McEvoy, Ute McKenna, Lori A. McKernan, Donald F. Meyer, Diana Mlyn, Theodore L. Nilsson, Ken Okorn, Robin Paladino, Daniela Rianna, Russell E. Rozensky, Natalie Jean Sachman, Robert L. Schwarz, Jr., Susan Seymour, Thomas N. Tedesco, Matthew Traub, Kurt Werber, Patricia A. Wolman

The respiratory care program offers a full-time upper-division program leading to the Bachelor of Science degree. A certificate in sleep studies is also offered to students who complete optional senior year courses in polysomnography. Stony Brook freshmen are given the option to declare respiratory care as a lower-division major.

Respiratory therapists utilize a variety of sophisticated medical equipment and therapies in the diagnosis and management of patients with a wide range of cardiorespiratory disorders. The knowledge and skills of the respiratory therapist are utilized in many aspects of health care including medical/surgical intensive care, neonatal intensive care, pediatrics, emergency and trauma care, cardiopulmonary diagnostic laboratories and in rehabilitation and home care. Individuals who graduate from the program are employed as clinicians, managers, educators and researchers.

The program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in cooperation with the Committee on Accreditation for Respiratory Care (CoARC) and the New York State Department of Education.

The school's Certificate of Professional Achievement and the University's baccalaureate degree are awarded upon satisfactory completion of all coursework.

Admission Requirements

Candidates for the respiratory care program must meet the upper division admission requirements of the School of Health Technology and Management. The requirements may be fulfilled through previous college studies completed.

In addition to the general academic requirements for junior status in the School of Health Technology and Management, the program requires candidates to meet the school's natural science requirement by successfully completing three courses in biology, including microbiology (11 credit hours), two courses (8 credit hours) each of chemistry and physics, 3 credit hours of college mathematics and certification in cardiopulmonary

resuscitation (CPR) and first aid. Courses in anatomy and physiology and prior health care experience are strongly recommended. Science courses with laboratories must be designated for science majors.

To advance to junior status, Stony Brook students who declared a respiratory care major as freshmen must meet the requirements described above and successfully complete HAT 210 with a grade of B or higher.

Program Requirements

All respiratory care students must complete the core course requirements of the School of Health Technology and Management. In addition, the following courses are required for successful completion of the upper division program leading to the baccalaureate degree:

Basic Science/Other Health Technology and Management Courses

Course #	Title	Credits
HAS 332	Management Concepts for Allied Health Professions	1
HAS 363	Computer Literacy for Health Professionals	1
HBA461	Regional Human Anatomy	5
HBH 330	Fundamentals of Pharmacology I	2
HBH 331	Fundamentals of Pharmacology II	3
HBY 350	Physiology	4

Professional Courses (Junior Year)

Course #	Title	Credits
HAT 304	Cardiopulmonary Physiology	4
HAT 306	Patient Evaluation	2
HAT 320	Cardiovascular Diagnosis and Treatment I	2
HAT 330	Pulmonary Pathology	3
HAT 331	Respiratory Care Techniques I	4
HAT 333	Pulmonary Diagnostic Techniques	3
HAT 340	Cardiovascular Clinical *	2
HAT 350	Basic Respiratory Care Clinical *	4
HAT 353	Pulmonary Diagnostic Clinical *	4
HAT 354	Airway Management Clinical *	2

Professional Courses (Senior Year)

Course #	Title	Credits
HAT 402	Advanced Cardiac Life Support	1
HAT 404	Neonatal Resuscitation	1
HAT 410	Introduction to Clinical Education	2
HAT 411	Clinical Teaching in Respiratory Care *	4
HAT 415	Instrumentation in Respiratory Care	2
HAT 420	Cardiovascular Diagnosis and Treatment II	3
HAT 431	Respiratory Care Techniques II	4
HAT 432	Perinatal Respiratory Care	3
HAT 450	Critical Care Clinical *	5
HAT 451	Perinatal Care Clinical *	4
HAT 482	Physiologic Monitoring Clinical *	2
HAT 487	Cardiopulmonary Rehabilitation Clinical *	2
HAT 493	Seminar/Readings in Respiratory Care I	0.5
HAT 494	Seminar/Readings in Respiratory Care II	0.5

*Clinical practice consists of full-time clinical instruction and practice at the clinical affiliates and other affiliated patient-care facilities.

Courses

HAT courses are given for respiratory care (RC) majors. The courses are sequential and require successful completion of prior courses. Non-RC students may take selected HAT courses, with the exception of clinical practica, with permission of instructor.

HAT 210 Introduction to Respiratory Care

An introduction to the science of respiratory care. Current trends in professional practice are discussed and students have the opportunity to observe clinical practice at a variety of affiliated health care facilities. This course is specifically designed for lower-division students considering a major in respiratory care.

1 credit, Lecture

HAT 304 Cardiopulmonary Physiology

Presents a detailed study of the physiology of human respiration and circulation. Topics include functional cardiopulmonary anatomy, embryology, ventilation, diffusion, blood flow, gas transport, acid-base states, mechanics and regulation of ventilation and basic cardiac function.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAT 306 Patient Evaluation

Provides concept of data base, historical information, medical terminology, chief complaint and present illness, and chest physical examination. Applies problem based learning to the study of clinical assessment skills.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture, Laboratory

HAT 320 Cardiovascular Diagnosis and Treatment I

Provides the basic technical and interpretive skills required to execute and read an electrocardiogram. Covers basic electrophysiology and presents the etiology, diagnosis and treatment of arrhythmias, as well as common cardiovascular pathologies, including congenital heart disease. The laboratory component includes EKG's, Holter monitoring and stress testing.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture, Laboratory

HAT 330 Pulmonary Pathology

A comprehensive study of the etiology, diagnosis, pathogenesis, pathophysiology, treatment, and prognosis of various types of pulmonary pathologies.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAT 331 Respiratory Care Techniques I

Covers the basic therapeutic modalities of respiratory therapy including oxygen therapy, humidification, aerosol therapy, chest physiotherapy, incentive spirometry, intermittent positive pressure breathing, blood gases, and airway management. Includes application of techniques of infection control, rehabilitation and home care, and patient education. Prerequisites: HAT 304, HAT 306.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture, Laboratory

HAT 333 Pulmonary Diagnostic Techniques

Provides the basic technical skills of pulmonary function testing, including an introduction to the instrumentation and physical principles of clinical measurement; procedures for measuring the lung functions of ventilation, mechanics, diffusion, gas distribution and exchange; and interpretation of tests results and their relation to various pathophysiology. Prerequisite: HAT 304

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture, Laboratory

HAT 340 Cardiovascular Clinical

Provides clinical practice in cardiovascular technology, including both invasive and noninvasive techniques. Students will be introduced to

clinical EKG's, Holter scanning, stress testing, and general noninvasive cardiography.

Prerequisite: HAT 320

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Required but Unsupervised, Clinical

HAT 350 Basic Respiratory Care Clinical

An introduction to the clinical application of basic respiratory procedures such as oxygen administration, aerosol therapy, IPPB, arterial punctures and other monitoring and diagnostic procedures. Additional experience is provided in the home care setting. Prerequisite: HAT 331

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Required but Unsupervised, Clinical

HAT 353 Pulmonary Diagnostic Clinical

Clinical application of spirometry, diffusion studies, blood gas analysis, flow volume loops, body plethysmography, helium dilution, nitrogen washouts, and bronchodilator responses. Prerequisite: HAT 333

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Required but Unsupervised, Clinical

HAT 354 Airway Management Clinical

Introduces the use of mechanical, cognitive, and decisional skills required in managing the airways of critically ill patients. Introduces students to actual patient management under supervision. Prerequisite: HAT 331

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Required but Unsupervised, Clinical

HAT 402 Advanced Cardiac Life Support

Prepares the Respiratory Care student to be a participating member of the Advanced Cardiac Life Support team. The content of this course is modeled after the ACLS course offered by the American Heart Association.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Lecture

HAT 404 Neonatal Resuscitation

Provides students with knowledge and skills to perform neonatal resuscitation utilizing simulated situations for practice. Demonstrates the use of resuscitation equipment on manikins.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Lecture

HAT 410 Introduction to Clinical Education

Introduces clinical teaching to senior students. Modalities include the decision making process, teaching strategies, classroom management, instructional design, and formative and summative evaluation.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture

HAT 411 Clinical Teaching in Respiratory Care

An extension of HAT 410. Develops skills for senior students to conduct clinical teaching strategies under faculty supervision. Prerequisite: HAT 410

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAT 415 Instrumentation in Respiratory Care

Explores principles of biophysics, mechanics, and electronics related to

the application of equipment used in cardiorespiratory care. Includes a comprehensive discussion of quality assurance, equipment maintenance, and diagnostic analysis.

Prerequisite: HAT 320, HAT 420, HAT 331, HAT 431, HAT 432

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture, Laboratory

HAT 420 Cardiovascular Diagnosis and Treatment II

Examines the theory and practical applications of invasive physiologic monitoring, including metabolic and hemodynamic monitoring, Swan-Ganz catheterization, cardiac output measurement and aseptic technique. Also contains an in depth study of the etiology, pathology and treatment of advanced cardiac disease, including congenital heart disease. Prerequisite: HAT 320

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture, Laboratory

HAT 431 Respiratory Care Techniques II

Introduces the concepts of advanced airway management and mechanical ventilation used in the respiratory support of the critically ill patient. Emphasizes the physiological basis for ventilator use, indications for ventilation, parameters monitored during ventilation, and ventilator design, function and clinical application. Prerequisite: HAT 331

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture, Laboratory

HAT 432 Perinatal Respiratory Care

Examines anatomy, physiology, and pathology relating to management of the neonatal/pediatric patient. Includes analysis of neonatal and pediatric ventilator function in terms of mechanics and suitability in clinical application. Corequisite: HAT 431

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture, Laboratory

HAT 450 Critical Care Clinical

Develops clinical skills in the management of the critical care patient. Includes specialized learning experiences in therapeutic modalities, mechanical ventilation, cardiovascular monitoring and home care ventilation. Prerequisites: HAT 350, HAT 431

Prerequisite: Admission to Undergraduate Health Sciences Center program

5 credits, Required but Unsupervised, Clinical

HAT 451 Perinatal Care Clinical

An extension of HAT 432. Presents in-depth diagnostic and therapeutic concepts utilized in pediatric and neonatal intensive care as well as other areas related to the holistic care of the newborn. Emphasizes specific technical procedures that differ from the adult patient.

Prerequisite: HAT 432

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Required but Unsupervised, Clinical

HAT 470 Polysomnographic Technology I

Designed to provide entry-level personnel with both didactic and laboratory training in polysomnographic technology. Presents medical terminology, instrumentation setup and calibration, recording and monitoring techniques, documentation, professional issues and patient-technologist interactions. Lab sessions will provide practical experience in the skills in the skills required of an entry-level polysomnographic technologist.

Prerequisite: Completion of all junior year courses.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture, Laboratory

HAT 471 Polysomnographic Technology II

Provides training in more advanced aspects of polysomnographic technology. Students become familiar with the skills and knowledge needed to obtain and evaluate high quality sleep recordings. Covers all the aspects of sleep scoring and event recognition, recording and mon-

*FWI-Fieldwork Level I is integrated into attached coursework and is a pre-clinical experience. It generally consists of observation and very limited hands on experience. Each is a maximum of 40 hours in length.

**FWII A, B, & C are full-time clinical fieldwork experiences.

monitoring techniques, documentation, professional issues, therapeutic interventions, and patient-technologist interactions related to polysomnographic technology.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture, Laboratory

HAT 475 Polysomnographic Technology I Clinical

Provides clinical training in the basics of polysomnographic technology. Familiarizes students with instrumentation setup and calibration, recording and monitoring techniques, documentation, professional issues, and patient-technologist interactions related to polysomnographic technology. Provides patient contact in a sleep lab. Presents opportunity to observe, perform (under supervision) and evaluate sleep studies.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Required but Unsupervised, Clinical

HAT 482 Physiologic Monitoring Clinical

Provides a clinical experience in the hemodynamic and metabolic monitoring of patients in critical care units/labs. Covers invasive diagnostic cardiovascular procedures, including cardiac catheterization, intra-arterial pressure monitoring, and indwelling arterial catheter insertion and monitoring. Prerequisites: HAT 420, HAT 431

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Required but Unsupervised, Clinical

HAT 487 Cardiopulmonary Rehabilitation Clinical

A clinical experience concentrating on program planning and evaluation of patients with chronic cardiopulmonary disorders. Includes discharge planning, rehabilitative services, stress testing, graded exercise and other supportive techniques. Prerequisites: HAT 320, HAT 331

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Required but Unsupervised, Clinical

HAT 490 Independent Study

Proposals for independent study in respiratory care must be submitted through the program director to the Committee on Research and Directed Study for approval prior to registration for this course.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 - 6 credits, Tutorial

HAT 493 Seminar/Readings in Respiratory Care I

A journal club offering that is designed to assist the student in the development of a professional knowledge base. Each student is expected to review and critically analyze current research publications in the field of respiratory care and report those findings to the faculty and their peers in an informal discussion setting.

Prerequisite: Admission to Undergraduate Health Sciences Center program

.5 credits, Seminar

HAT 494 Seminar/Readings in Respiratory Care II

A practical discussion and seminar course that prepares the student to take the national certification and registry examinations. Each student will take self-assessment exams that analyze their technical and clinical skills in the areas of data collection and interpretation, as well as decision making skills.

Prerequisite: Admission to Undergraduate Health Sciences Center program

.5 credits, Lecture

Division of Rehabilitation Sciences

Chair: Richard W. Johnson

Vice Chair: Vera-Jean Clark-Brown

Department of Physical Therapy

Chair: Richard W. Johnson

Vice Chair: Janice M. Sniffen

Associate professors: William E. DeTurk, Raymond F. McKenna, Margaret A. McNurlan,

Clifton S. Mereday (emeritus), Jacob S. Schleichkorn (emeritus), Janice M. Sniffen

Assistant professors: Susan R. Babyar, Dawn M. Blatt, John J. Bowman, Christopher K. Carden, Lynn A. Cataldo, Tara L. Cattaneo, Jeanne Charles, Randy E. Cohen, Paula A. Collins, Karen A. Correia, Brian R. Davis, Elaine E. DeFrancesco, Maryanne Driscoll, Kerry J. Falvey, Ruben Fernandez, Joseph M. Giglio, Cheryl A. Gillespie, Lisa Giordano, Ann Goerd, Catherine C. Goodman, Cheri L. Gostic, Lisa Anne Grieco, Mark J. Gugliotti, Christine S. Hammer, Evelyn Hecht, Kyle D. Hewson, Matthew Hyland, Michelle Hyland, Richard W. Johnson, Steven W. Lichtman, Howard W. Makofsky, Lisa M. Mancini, Michael J. Manfre, Sharon A. Martino, Joseph K. Masefield, Andrew L. McDonough, Charles L. McGarvey, Malachy P. McHugh, Patric McQuade, Maria A. Meigel, Joseph G. Montalto, Lisa M. Muratori, Karl F. Orishimo, Rose M. Ortega, Robert M. Otto, Peter C. Panus, Margaret M. Plack, Sharon M. Purcell, Diana R. Ribaud, Sushama Rich, Mark D. Rossi, Candiano Rienzie, Susan Ruck, Anita M. Santasier, Philip L. Schrank, Robert E. Spagnoli, Robert M. Streb, Cynthia Stys, Gregory T. Thielman, Catherine M. Tuppo, Jo Tyler, Debra M. Vion, Sandra F. Zamparo

Lecturers: Gina Alaimo, Robert Biaggi, Barbara W. DeTurk, Heather L. Johanson-Wilson, Linda M. McKenna, Deborah L. Weingarten

Instructors: Ann Arcery, Christine M. Calderone, Daniel R. Cammarata, Donald S. Doherty, Kenneth Green, Donald S. Hardwick, Raymond F. Mattfeld, James Megna, Diane M. Nicholson, Maureen O'Rourke, Patricia Zumpol

Program in Physical Therapy Leading to the Entry-Level Bachelor of Science Degree

The June 2000 physical therapy class was the last to graduate from the program in physical therapy leading to a bachelor of science degree. For specific program requirements and course descriptions, refer to the 2000-2001 Health Sciences Center Bulletin.

Program in Physical Therapy Leading to the Entry-Level Doctor of Physical Therapy Degree

Chair: Richard W. Johnson

Academic coordinators of clinical education: Dawn Blatt and Cheri Gostic

Recent trends in health care have precipitated the development of a three-year entry-level graduate clinical doctorate program in physical therapy. These changes in health care include:

- Shorter lengths of stay in traditional environments
- Higher acuity and survival as a result of medical science and technological advances
- The need for health management via intervention, prevention and maintenance, as well as the management of disease, impairments and disabilities
- Role and practice adaptations by physical therapists in anticipation of and in response to market changes
- The development of strategies by payers that demand evidence-based justifications for interventions

- Health care models that require greater risk assumption and accountability for outcomes of care

The three-year graduate program consists of 106 didactic credits and 40 clinical credits. Graduates of the program are prepared to provide care in a multitude of physical therapy settings. The program develops leaders who demonstrate evidence-based practice, critical inquiry skills and clinical decision making skills needed for differential diagnosis and autonomous practice. In addition to direct patient care, graduates can pursue careers in research, administration, consultation, and community health.

The doctor of physical therapy program is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association (CAPTE/APTA). Graduates are eligible to sit for the national license exam.

In addition to the doctor of physical therapy degree, the school's Certificate of Professional Achievement in Physical Therapy is awarded upon satisfactory completion of all coursework.

Admission Requirements

The entry-level doctor of physical therapy program requires students to enter the program with a baccalaureate degree. The department of physical therapy requires candidates to meet the school's natural science requirement by successfully completing eight credits each of chemistry, physics, and biology, all with laboratories and designated for science majors. A three credit 300 or 400 level physiology course is also required. Completion of required science courses must be within the past ten years. In addition, the department requires 9 credits in social and behavioral sciences, 9 credits in arts and humanities, 3 credits in English composition and 3 credits in statistics. Candidates must complete required course work by the end of the spring term of the year for which the application is made. Certification in cardiopulmonary resuscitation (CPR) and first aid is required. A minimum of a 3.0 cumulative grade point average and a 3.0 grade point average for the required prerequisite science courses is preferred. Applicants must submit Graduate Record Examination (GRE's) scores. At least 100 hours of volunteer or work experience within a physical therapy facility is required. A varied exposure to the field is recommended.

Program Requirements

Physical therapy students must complete the following required courses:

Professional Courses (Year One)

Course	Title	Credits
HBA540	Regional Human Anatomy	6
HAY 553	Computer Literacy and Evidence-Based Practice	1
HAY 560	Foundations of Professional Practice in PT	2
HAY 500	Neuroscience for Physical Therapy	4
HAY 519	Kinesiology	5
HAY 518	Foundations of Exercise and Movement in PT	4.5

* Clinical practice consists of full-time clinical instruction and practice at the clinical affiliates and other affiliated patient-care facilities.

HAY 526	Clinical Medicine and Pharmacology I	3.5
HAY 528	Clinical Medicine and Pharmacology II	4.0
HAY 541	Physical Agents & Wound Care in PT	2.5
HAY 570	Case Studies I	1
HAY 542	Electrotherapy in Physical Therapy Practice	3
HAY 504	Introduction to Adult Rehabilitation	3.5
HAY 501	Growth and Development Across the Life Span	4
HAY 527	Acute Care in Physical Therapy	4
HAY 551	Introduction to Research Method & Design	3
HAY 561	Teaching, Consulting, Communicating in Clinical Education	2

Professional Courses (Year Two)

Course	Title	Credits
HAY 571	Case Studies II	1
HAY 595	Clinical Practice I*	8
HAY 502	Psychosocial Aspects of Disability I	1
HAY 503	Psychosocial Aspects of Disability II	1
HAY 506	Adult Neurological Rehabilitation	4
HAY 507	Orthopedic Physical Therapy I	3.5
HAY 508	Orthopedic Physical Therapy II	3.5
HAY 509	Pediatric Rehabilitation	4
HAY 510	Cardiopulmonary Rehabilitation	3
HAY 512	Prosthetics and Orthoses	4
HAY 550	Statistics	3

Electives:

HAY 520	Biomechanics	3
HAY 521	Musculoskeletal Measurement	3
HAY 531	Motor Learning	3
HAY 533	Implicit vs. Explicit Learning	3
HAY 536	Introduction to Motor Control	3
HAY 537	Neuroplasticity	3
HAY 580	Practicum	3-6

Professional Courses (Year Three)

Course	Title	Credits
HAY 572	Case Studies III	1
HAY 524	Health, Wellness and Prevention in PT	3
HAY 525	Advanced Therapeutic Exercise	3
HAS 534	Fundamentals of Health Care Management	3
HAS 545	Ethics and Health Care	3
HAY 562	Teaching Skills for Clinical Instruction	1.5
HAY 596	Clinical Practice II*	8
HAY 597	Clinical Practice III*	8
HAY 599	Clinical Internship	16

Electives:

HAY 558	Evidence Based Practice	3
HAY 580	Practicum	3-6

Special Academic Requirements

In addition to the academic policies of the school, a minimum grade of C- in HBA 561 Regional Human Anatomy is required for continued matriculation in the physical therapy program. For the remaining professional courses, each student must achieve a minimum grade of C+ . Failure to earn a minimum of a C+ will require a student to repeat the course and prevent the student from participating in clinical affiliations.

Failure to successfully complete 3 or more courses during the three-year curriculum will result in a student being subject to termination from the program. Additionally, students must maintain a 3.00 cumulative grade point average to remain in good academic standing and participate in clinical affiliations.
Program in Physical Therapy Leading to the Post-Professional Master of Science Degree

Specialization: Movement Science

Program Chair: Richard W. Johnson

The post-professional master of science degree program in physical therapy enhances the skills of licensed physical therapists for advanced practice, clinical research and teaching. The primary focus will be placed on exploring current theories, procedures and technology used in the assessment and intervention of people with problems in movement control.

This program will also provide substantive study in the movement sciences and methods of biomechanical analysis. Students will explore the influence of behavior, musculoskeletal variables and neuromotor process on learning and movement performance in people of all ages. An emphasis will be placed on clinical application and educational practice throughout the curriculum. In addition to coursework, a final project will be required. The final project will be selected with approval of an advisor and may involve: (a) a scholarly paper synthesizing the theoretical literature in movement science and making applications to a professionally relevant therapeutic issue, or (b) a research report of an applied or basic study, or (c) a teaching project with analyzed outcome data. Courses will be offered in the evenings and weekends for part-time students.

Admission Requirements

Applicants must be graduates from an accredited physical therapy program. A cumulative grade point average of 3.0 is preferred.

Program Requirements

Candidates must complete a minimum of 37 credits and satisfy the specific core, research and teaching preparation, seminar and elective requirements. Courses are chosen with program advisement and approval.

Core: Candidates must complete the courses listed below (15 credits).

Course	Title	Credits
HAY 531	Motor Learning	3
HAY 532	Clinical Application of Motor Learning Principals	3
HAY 520	Biomechanics	3
HAY 521	Analysis of Human Movement I - Kinematics	3
HAY 522	Analysis of Human Movement II - Kinetics	3

Research and Teaching Preparation: Candidates must complete the courses listed below (10 credits).

Course	Title	Credits
HAY 551	Introduction to Research Design	3
HAS 550	Statistics	3
HAY 580	Practicum	4

Seminars: Candidates must complete two of the three courses listed below (6 credits).

Course	Title	Credits
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HAY 583	Advanced Topics in Neuromotor Processes	3
HAY 584	Advanced Topics in Motor Learning and Motor Control	3
HAY 585	Advanced Topics in Biomechanics	3

Electives: Candidates must complete two courses listed below (6 credits).

Course	Title	Credits
HAY 500	Neuroscience for Physical Therapists	3
HAY 533	Bases of Motor Control Systems	3
HAY 534	Motor Development	3
HAY 523	Gait Analysis	3

Any courses offered in the SHTM Advanced Certificate Program in Health care Management can be used to satisfy the elective requirement.

Program in Physical Therapy Leading to the Post-Professional (Transition) Doctor of Physical Therapy Degree

Chair: Richard W. Johnson

Program Director: Kyle Hewson

The post professional (transition) doctor of physical therapy degree program is designed to enhance physical therapy practice by providing clinicians' with the knowledge and theoretical underpinnings of practice recently added to the entry-level professional curriculum to meet the demands of the changing healthcare environment. Primary focus will be placed on specific areas of augmentation including: foundational sciences (eg: pharmacology, and medical imaging), clinical sciences (evidence based practice, clinical decision making, differential diagnosis, health care management, and health, prevention and wellness), computer technology, and outcome measurement and analysis. Students are given the opportunity to pursue further study in areas of particular interest by enrolling in elective classes. These electives span current practice in the areas of musculoskeletal, neuromotor, and cardiopulmonary care as well as health, wellness and prevention. This program, intended for students to enroll in a part-time course of study, is offered on both the Manhattan and Long Island campuses. Courses will be offered in evening and week formats to accommodate the working clinician.

Admission Requirements

Applicants must have graduated from a program with a certificate, bachelor's degree or masters degree in physical therapy, and must be either licensed in the United States or show proof of eligibility for licensure.

Program Requirements

Candidates must satisfy all core and elective requirements (36 credits).

Core: Candidates must complete the courses listed below

Course	Title	Credits
HAY 529	Principles of Pharmacology	4
HAY 530	Differential Diagnosis	3
HAY 548	Medical Imaging	2
HAY 551	Research Design	3
HAY 553	Computer Technology and Evidence Based Practice	2

HAY 556	Outcome Measurement and Analysis	3
HAY 558	Evidence Based Practice in Physical Therapy	3
HAY 563	Teaching and Physical Therapy Practice	3
HAY 576	Clinical Decision Making	3
HAY 601	Issues in Global Health Care	2
HAY 602	Issues in Health Care Administration	2
		30 credits

Electives:

Candidates must select 2 courses for a total of 6 elective credits

Electives will vary and may include, but not be limited to, the following:

Topics in Musculoskeletal Physical Therapy		
Course	Title	Credits
HAY 520	Biomechanics	3
HAY 521	Musculoskeletal Measurement	3

Topics in Neuromuscular Physical Therapy

HAY 531	Motor Learning Theory	
HAY 536	Introduction to Motor Control	3
HAY 533	Implicit vs. Explicit Learning	3
HAY 537	Neuroplasticity	3

Topics in Cardiopulmonary Physical Therapy

Course	Title	Credits
HAY 615	Applied Physiological Foundations of Exercise	3
HAY 616	Exercise Prescription	3

Topics in Health, Wellness, and Prevention

Course	Title	Credits
HAY 610	Fitness and Wellness	3
HAY 611	Complementary and Alternative and Approaches to Rehabilitation and Wellness	3

Practicum for select students only (requires permission of the Program Director)

3-6 credits

HAY 580	A) Research	3
HAY 580	B) Management	3
HAY 580	C) Teaching/Education	3
		6 credits

Courses

HAY 310 Neuroscience

An integrated approach to the general principles of organization and function of the peripheral and central nervous system. Presents these principles in a systems approach to neuroscience. Covers the anatomy of the system with its physiology and clinical relevance to the physical and occupational therapists. Clinical topics include neurology, neurological testing, control of posture and balance, locomotion, pain, muscle tone, feedback versus feedforward control mechanisms, control of reaching, perception and learning.

Prerequisites: HBA461

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAY 318 Electrotherapy

Explores fundamental skills in application of electromodalities as well

*Formal armed forces or professional school courses may in some cases be approved for credit by the Admissions Committee of the School of Health Technology and Management

as indications, contraindications and physiological principles in a theoretical framework. Includes topics such as electrical stimulation, T.E.N.S., iontophoresis, ultrasound, phonophoresis, diathermy and electrodiagnostic testing.

Prerequisites: HBA461, HAY 310

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAY 319 Kinesiology

Explores kinetics and kinematics of normal, purposeful human movement, and integrates knowledge of human anatomy, physiology, and biomechanics to the human body. Includes evaluation procedures such as manual muscle testing and measurement of joint range of motion.

Prerequisites: HBA461, Corequisite: HAY 425

Prerequisite: Admission to Undergraduate Health Sciences Center program

5 credits, Lecture

HAY 391 Case Studies I

First of a three course sequence designed to integrate course material throughout the first two years of the program curriculum. With each case study course the demand on the students for synthesis and integration will increase. Core faculty, adjunct faculty and lab assistants involved in term 1 of year 1 will design and mentor activities and case studies that require students to integrate curriculum content up to this point. Cases will incorporate patients of all ages from diverse cultural backgrounds with and without pathology of the neuromotor, cardiopulmonary, musculoskeletal and integumentary systems.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Lecture

S/F graded.

HAY 404 Growth and Development Across the Life Span

Presents an integrated approach to normal human growth and development throughout the life span. Examines developmental norms and sequences with emphasis on biophysical (motor and sensory), cognitive, language, and psychosocial tasks. Discusses cultural and environmental influences. Covers prenatal, infant, child, adolescent, adult, and geriatric development.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAY 415 Clinical Medicine

Studies specific diseases and injuries that are frequently encountered by physical therapists. Addresses epidemiology, pathophysiology, current theory of etiology, disease course and clinical presentation. Emphasizes the medical and surgical management of patients with system, neurological, musculoskeletal, and cardiopulmonary disorders across the life span.

Prerequisites: HBA461, HAY 310 Co-requisite: HBP310

Prerequisite: Admission to Undergraduate Health Sciences Center program

5 credits, Lecture

HAY 418 Introduction to Rehabilitation Techniques

Prepares students to evaluate, establish problem lists, and determine and write appropriate goals for individuals with neurologic impairments. Reviews fundamental skills including documentation, body mechanics, turning and positioning, wheelchair management, transfers and ambulation training. Utilizes a systems model of motor control as a theoretical framework for clinical assessment and treatment.

Prerequisites: HAY 310, HAY 319 Co-requisite: HAY 415

Prerequisite: Admission to Undergraduate Health Sciences Center program

3.5 credits, Lecture

HAY 425 Foundations of Exercise and Movement

Explores fundamental principles of endurance, strength and flexibility.

Links exercise physiology to aerobic and muscular endurance. Fundamentals of muscle and connective tissue function from microstructure to macrostructure are considered in health and dysfunctional states through the life span. Expands basic principles to explore the concept of myofascial mobility, extensibility and length. Students will be expected to develop and implement a comprehensive treatment plan designed to address commonly encountered patient problems including deficits in flexibility, strength and endurance.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4.5 credits, Lecture

HAY 441 Physical Agents and Wound Management

Reviews the anatomy and physiology of the integumentary system as it relates to thermoregulatory mechanisms, fluid shifts, and skin integrity. Presents therapeutic applications of superficial heat and cold, hydrotherapy, ultrasound, compression therapies, and the diathermies with emphasis on evaluation of pain and soft tissue dysfunction, patient preparation, physiological responses, and indications/contraindications. Wound care and burn care are presented together with aseptic techniques.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2.5 credits, Lecture

HAY 450 Acute Care

Provides hands-on experience working with acute care equipment, protocols, and other team members. The course features evaluation and treatment parameters designed for the in-hospital, acute care patient. Includes assessment techniques, transfers, bed positioning, pulmonary care, and select post-surgical physical therapy protocols. Explores Intensive Care Unit, Step Down and Recovery Room environments. Introduces students to acute care chart review and note writing. Early discharge planning, the use of home exercise programs, and appropriate ancillary services are presented. *Prerequisite:* HBP310

Co-requisite: HAY 415

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAY 481 Foundations of Professional Practice

Examines the roles and responsibilities of the physical therapist in the present health care environment. Historical and ethical foundations of the profession as well as current issues changing the profession are discussed. Explores dynamics of professional relationships with patients, families and other care providers. Fundamentals of teaching as applied to patient education, professional in-services, and clinical education are presented and practiced. Introduces the APTA Guide to Physical Therapist Practice. Preparation for the first clinical education experience is included.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAY 491 Case Studies II

Case Studies II is the second phase in a 3 course sequence designed to integrate course material throughout the first two years of the program curriculum. With each case study course, the demand on the students for synthesis and integration will increase. Core faculty, adjunct faculty and lab assistants involved in the spring term of year one will design and mentor activities and case studies that require students to integrate curriculum content from term two and build on the course material presented in term one of year one. Cases incorporate patients of all ages from diverse cultural backgrounds with and without pathology of the neuromotor, cardiopulmonary, musculoskeletal and integumentary systems. *Prerequisites:* HAY 318, 404, 415, 418, 450 and 481

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Lecture
S/F graded.

HAY 500 Neuroscience for Physical Therapy

Integrated approach to general principles of organization and function of the peripheral and central nervous systems. Presents these principles in a systems approach to neuroscience. Covers the anatomy of the system with its physiology and clinical relevance to physical therapists. Clinical topics include neurology, neurological testing, control of posture and balance, locomotion, pain, muscle tone, feedback vs. feed-forward control mechanisms, control of reaching, perception and learning. *Prerequisite:* 540.

Prerequisite: Admission to Graduate Health Sciences Center Program

4 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 501 Growth and Development Across the Life Span

Presents an integrative approach to normal human growth and development throughout the life span. Examines developmental norms and sequences with emphasis on biophysical (motor and sensory), cognitive, language and psychosocial tasks. Discusses social, cultural and environmental influences. Covers prenatal, infant, child, adolescent, adult and older adult geriatric development, as well as related aging issues.

Prerequisite: Admission to Graduate Health Sciences Center Program

4 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 502 Psychosocial Aspects of Disability I

Emphasizes the psychosocial aspects of disability as they affect the life of the individual. Topics include identification of pre-morbid factors that contribute to positive adjustment or maladaptive responses to disability; the influence of culture on individual and family expectations of the health care system; patient perspectives as consumers of the health care system; and changing roles in the family. Students will practice techniques of positive listening and role-play to develop skills in recognizing psychosocial factors during acquisition of patient history. Emphasizes utilization of psychosocial information in the establishment of a plan of care for patients across the life span.

Prerequisite: Admission to Graduate Health Sciences Center Program

1 credit, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 503 Psychosocial Aspects of Disability II

Explores the interactions of the individual with disability within the community. Focuses on concerns of the individual beyond physical rehabilitation. Topics include concomitant mental health issues; the mind-body connection; humor in medicine; complementary and alternative medicine; technology and disability; vocational rehabilitation; sexuality; domestic violence and interpersonal abuse; substance abuse; and terminal illness. Promotes identification and communication with local, regional and national resources that enable individuals with disabilities to engage in recreational, vocational, or educational endeavors. *Prerequisite:* HAY 502.

Prerequisite: Admission to Graduate Health Sciences Center Program

1 credit, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 504 Introduction to Adult Rehabilitation

A systems model of motor control and principles of motor learning will be utilized as a theoretical framework to prepare students to examine, evaluate, establish problem lists, determine and write appropriate goals, develop an intervention plan and implement an intervention for neurologic patient populations. Presents fundamental skills including documentation, body mechanics, bed mobility and patient positioning, wheelchair management, transfers and ambulation training. Introduces students to task-oriented practice and neurotherapeutic techniques and applies exercise principles established in Foundations of Exercise and Movement to the individual with a neurological disorder. *Prerequisite:* HAY 500 and 518.

Prerequisite: Admission to Graduate Health Sciences Center Program

3.5 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 506 Adult Neurological Rehabilitation
Uses the disablement model to examine the impact of adult neurological or neuromuscular conditions on activities identified by an individual as essential to support physical, social, and psychological well-being and to create a personal sense of meaningful living. Students will continue practicing synthesis of examination data during the evaluation process; however, the major emphasis of the course will be to develop and implement appropriate intervention strategies based on the best evidence available for people with neurological or neuromuscular disorders. Prerequisites: HAY 500 and 504.

Prerequisite: Admission to Graduate Health Sciences Center Program
4 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 507 Orthopedic Physical Therapy I
Introduces concepts of musculoskeletal subjective and objective examination. Sharpens student's evaluation skills as clinical decision-making and differential physical therapy diagnosis, prognosis and intervention are introduced in the framework of musculoskeletal dysfunction. Applies these general skills to various musculoskeletal dysfunctions of the lower extremities. Explores functional anatomy, including the osteokinematics, arthrokinematics, myology and neurology of the lower extremities as they relate to surgical and non-surgical musculoskeletal conditions. Prerequisite: HAY 519.

Prerequisite: Admission to Graduate Health Sciences Center Program
3.5 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 508 Orthopedic Physical Therapy II
Builds on the concepts and skills of Orthopedic Physical Therapy I by integrating clinical decision-making and differential physical therapy diagnosis, prognosis and intervention of the lower extremities with the spine and upper extremities. Various musculoskeletal dysfunctions of the trunk and upper extremities are explored. Functional anatomy, including the osteokinematics, arthrokinematics, myology and neurology of the trunk and upper extremities are discussed as they relate to surgical and non-surgical musculoskeletal conditions. Prerequisite: HAY 507.

Prerequisite: Admission to Graduate Health Sciences Center Program
3.5 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 509 Pediatric Rehabilitation
Emphasizes abnormal movement patterns in children. Presents developmental and long term effects of neuromuscular and musculoskeletal dysfunction as they relate to movement. Discusses examination and intervention techniques of selected movement problems. Explores use of adaptive equipment and the role of the pediatric physical therapist in a variety of contexts and environments. Students will assess and work with children with developmental disabilities in a local facility. Prerequisite: HAY 501 and 506.

Prerequisite: Admission to Graduate Health Sciences Center Program
4 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 510 Cardiopulmonary Rehabilitation
Emphasizes patient-client management model focused primarily for out-patient rehabilitation and home care settings. Includes interpretation of electrocardiograms, heart/lung auscultation, and the administration of grade exercise test protocols. In addition, exercise prescription for aerobic endurance training for both cardiac and pulmonary patients and the use of appliances are applied to the elderly patients with heart and pulmonary disease. Emphasizes the use of evaluative findings to direct exercise prescription.

Prerequisites: HAY 517, HAY 526, HAY 527, HAY 528
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 512 Prosthetics and Orthoses
Studies prosthetic and orthoses management as applied to a variety of

patient populations across a life span. Addresses considerations of various pathology and medical surgical management to formulate appropriate patient examinations, evaluation, diagnosis, prognosis and intervention that are consistent with physical therapy practice guidelines. Principles of normal biomechanics, pathomechanics, physiology and pathophysiology will be a major focus for evaluation, intervention and education of the vascular, neuromuscular, and / or musculoskeletal compromised patient that may utilize prosthetic or orthotic devices. Basic principles of mechanical physics and material characteristics will be applied. Clinical site visits are scheduled to observe and practice patient evaluation, treatment and education techniques.

Prerequisites: HAY 519
Prerequisite: Admission to Graduate Health Sciences Center Program
4 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 517 Exercise Physiology
Reviews the normal physiology of the cardiopulmonary system. Presents the normal immediate response to exercise and long-term effects of exercise in the healthy well individual. Includes presentation of foodstuffs for energy production, metabolic pathways for production of ATP, and energy systems used in aerobic and anaerobic activities. The course includes strength and endurance exercise prescription for the healthy well individual. Also includes laboratory experiences for the measurement of vitals and select exercise testing.

Prerequisite: HBA540
Prerequisite: Admission to Graduate Health Sciences Center Program
1 credit, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 518 Foundations of Exercise and Movement
The course presents an introduction to the fundamental principles of strength and flexibility. Fundamentals of muscle and connective tissue function from microstructure to macrostructure are considered in health and dysfunctional states through the life span. These basic principles will be expanded to explore the concept of myofascial mobility, extensibility and length. Students will combine the skills learned in Kinesiology with those learned in this course to begin the process of examination, evaluation and designing intervention programs for the movement dysfunction.

Prerequisite: Admission to Graduate Health Sciences Center Program
3.5 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 519 Kinesiology
Explores the kinetics and kinematics of normal, purposeful human movement. Integrates knowledge of human anatomy, physiology, mechanics and biomechanics as it applies to movement of the extremities and spine. Includes evaluation procedures such as manual muscle testing and measurement of joint range of motion. Direct patient contact is scheduled.

Prerequisite: HBA540.
Prerequisite: Admission to Graduate Health Sciences Center Program
5 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 520 Biomechanics
Biomechanics uses laws of physics and engineering to describe the motion undergone by various body segments and the forces acting on these body parts during activities. This course will consider the application of classic mechanics, including statics, dynamics, solid mechanics, and fluid mechanics to describe movement and the loads placed on biological tissue. Uses a quantitative biomechanical approach to analyze loadings on joints and soft tissue during movement, skill performance especially related to sports, the efficiency of movement and the biomechanical rationale for specific physical therapy intervention. In groups, students will analyze a movement biomechanically using appropriate mathematical formulas and present to the class their analysis and critique of relevant quantitative information from the literature. Prerequisite: HAY 519 (for entry level DPT only).

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 521 Musculoskeletal Measurement

Presents measurement methodology of human motion including motion analysis, EMG, electric goniometry, force plates and dynamometry. Reviews selected examples of methodology from current literature. Students will choose a measurement project related to one of the topics and record data. Requires a teaching project related to kinematic or kinetic measurement. *Prerequisite:* HAY 520.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 524 Health, Wellness and Prevention in Physical Therapy

Presents issues related to promotion of health and wellness and concepts of integrative medicine. Examines and integrates general fitness into the following clinical environments: obstetrics, occupational health and injury prevention, ergonomics, sports medicine (pre, post, and in season), obesity, chronic pain, pediatrics, geriatrics, and athletic programs for the physically and/or mentally challenged. Students will perform screening techniques for the assessment of the following wellness issues: school-based scoliosis, safety and accessibility of children play areas, cardiovascular fitness, and fall prevention in the elderly. Based upon the findings of screens and individual client goals, students will develop, implement and assess the effectiveness of a cohesive wellness program. Introduces issues related to the development of a wellness center and visits to established prevention programs in the community. *Prerequisite:* HAY 510.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 525 Advanced Therapeutic Exercise

Provides students with the opportunity to apply and analyze therapeutic exercise techniques in order to formulate exercise programs for diverse patient and client populations. Students will be encouraged to discuss and build upon their knowledge of basic therapeutic techniques attained from previous coursework and clinical training experiences. Advanced techniques will be demonstrated and practiced in lab. Students will evaluate, set goals, develop therapeutic exercise programs and measure outcomes. Issues regarding frequency, intensity and duration of treatment will be discussed throughout the course. *Prerequisite:* HAY 507, 508, 518 and 519.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 526 Clinical Medicine and Pharmacology I

Provides a foundation in medicine and differential diagnoses. Introduces the concepts of evidence-based practice, Nagi's model of disablement, client/patient management model, and an interaction model between patient, task and environment. These frameworks will guide the process of clinical decision-making. Integrates principles of pharmacology, diagnostic radiology and laboratory diagnostic testing to facilitate safe and effective patient management planning. Familiarizes students with medical terminology and abbreviations for efficient and effective chart reviewing and documentation. Explores select systemic diseases, focusing on epidemiology, pathology, histology, etiology, as well as primary and secondary clinical characteristics. Discusses and integrates subsequent medical and surgical management to formulate appropriate intervention indications, precautions and contraindications.

Prerequisite: Admission to Graduate Health Sciences Center Program
3.5 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 527 Acute Care in Physical Therapy

Emphasizes use of the patient-client management model focused primarily on the acute care in-hospital setting. Includes examination techniques, transfers, bed positioning, orthopedic, pulmonary and cardiac care, and select post-surgical physical therapy intervention protocols. Includes documentation, discharge planning, and the use of appropriate ancillary services and equipment.

Prerequisite: HAY 518 and 526; *Co-requisite:* HAY 528.

Prerequisite: Admission to Graduate Health Sciences Center Program
4 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 528 Clinical Medicine and Pharmacology II

This course continues to build a foundation in medicine and differential diagnoses. Students are expected to utilize the concepts of evidence-based practice, Nagi's model of disablement, client/patient management model and the interaction model between patient, task and environment as frameworks for clinical decision-making. In-depth exploration of frequently encountered diseases, congenital abnormalities and injuries across the life span will be the continuing format. Epidemiology, pathophysiology, etiology, clinical characteristics and subsequent medical and surgical diagnoses and management of each disease/injury will be presented. Students are required to apply knowledge of pharmacology, diagnostic radiology and laboratory diagnostic testing into safe and effective patient management planning through clinical case study exercises. Focus will be on the formulation of appropriate intervention indications, precautions and contraindications. Students will continue to build a repertoire of medical terminology, medical charting abbreviations and clinical outcome measures. Proficiency is expected with medical record review and analysis, synthesizing an appropriate patient/client management plan consistent with the Guide to Physical Therapy Practice.

Prerequisite: HAY 500 and 526.

Prerequisite: Admission to Graduate Health Sciences Center Program
4 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 529 Principles in Pharmacology

Introduces the most commonly used pharmacotherapeutic agents for patients receiving physical therapy. The role of these agents is discussed in relation to disease prevention, amelioration, restoration/cure, maintenance, and how pharmaceuticals influence patients' responses to physical therapy rehabilitation.

Prerequisite: Admission to Graduate Health Sciences Center Program

4 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 530 Differential Diagnosis

Introduces students to the role that health screenings and systems review play in the process of making physical therapy diagnoses. Evidence based clinical decision making consistent with the patient client management model will be the foundation upon which differential diagnoses are made. Case studies will be used to integrate screening information in determining a physical therapy diagnosis and making decision regarding intervention versus referral.

Prerequisite: Admission to Graduate Health Sciences Center Program

3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 531 Motor Learning

Introduces students to current theory and research related to skill acquisition through an examination of current literature. The course will be broken up into two parts. In part one, students will examine literature ranging from early to contemporary perspectives on motor learning. In part two, students will use literature and their clinical practice as a framework to discuss facilitating skill acquisition. Topics such as practice, feedback, transfer of training, modeling, part vs. whole training, and imagery will be discussed. Throughout part two, students will be challenged to discuss the validity of published motor learning studies related to their clinical practice.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 533 Implicit vs Explicit Learning

Students will explore memory systems active in implicit and explicit motor learning. They will critically evaluate and integrate current research related to implicit and explicit learning. Research will include developmental, neuropsychological and rehabilitation approaches to learning. Students will determine the usefulness of the methodology, task design and the results of each study. A teaching project related to implicit or explicit learning is required. *Prerequisite:* HAY 531.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 536 Introduction to Motor Control

Establishes historical context for major explanatory concepts applied to issues of coordination and skill during the last century. Presents readings of original work of leading theoreticians and researchers who have made significant contributions during this period. Students will critically evaluate papers related to reflex theory, serial order, servo-control, information processing theory, motor programs, dynamic pattern theory and computational models.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 537 Neuroplasticity

Presents an overview of recovery of function mechanisms. Students critically analyze animal and human research literature examining spinal cord, somatosensory cortex, motor cortex and muscle plasticity. Addresses effectiveness of different human research paradigms exploring the issue of neural changes. Explores the effects of age, nature of lesion, environment and pharmacology on recovery of function. Links neural plasticity research to conceptual frameworks for clinical practice. *Prerequisite:* HAY 536.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 541 Physical Agents and Wound Care in Physical Therapy

Physical modalities including superficial and deep thermal agents, hydrotherapy, aquatic therapy, intermittent compression, mechanical traction, burn and wound care with aseptic technique are presented in class. Emphasis will be placed on evidence-based practice with ample opportunity to learn from experienced clinicians through guest lectures and site visits. Students will focus on pre-treatment assessment and physiological response to treatment as the basis for clinical decision making. Patient education, treatment preparation and performance, indications and contraindications will be covered for each modality. Supervised laboratory sessions provide a safe atmosphere for the administration of these agents as well as direct observation of clinical effects. Laboratory sessions and group discussions will be case study driven to foster critical thinking and collaborative learning.

Prerequisite: Admission to Graduate Health Sciences Center Program
2.5 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 542 Electrotherapy in Physical Therapy

Explores fundamental skills in application of electromodalities and knowledge of indications, contraindications and physiological principles needed for appropriate patient care. Includes topics such as electric stimulation, T.E.N.S., iontophoresis, ultrasound/phonophoresis, diathermy and electrodiagnostic testing.

Prerequisites: HBA540, HAY 500, HAY 541
Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture, Laboratory
Letter graded (A, A-, B+, etc.).

HAY 548 Medical Imaging

Introduces equipment, procedures and use of medical imaging for examination and evaluation purposes. Examines topics such as radiographs, arthrography, CT scans, MRI, ultrasound and nuclear studies. Case studies will be used to integrate imaging data into the patient/client management plan.

Prerequisite: Admission to Graduate Health Sciences Center Program
2 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 550 Statistics

Presents the fundamentals of statistical analysis. Includes performing basic statistical analyses using at least one computer program. Topics include descriptive statistics, statistical inference, tests for experimental comparisons, correlation, regression, and nonparametric tests. Addresses the relationship between statistics and research design by introducing relevant research articles in the field of physical therapy.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 551 Introduction to Research Methods and Design

Introduces basic concepts of scientific design and methodology for the critical examination of scientific literature. Explores the relevance of research application and evidence-based practice in physical therapy. Introduces concepts of dependent, independent variables, hypothesis testing, sampling, and experimental controls. Addresses ethical issues, informed consent and human subject constraints. Measurement reliability and validity will be emphasized with application to outcomes management. Explores a variety of research designs including experimental, quasi-experimental, descriptive, correlation, qualitative and single case study designs. Basic concepts of statistical analyses will be integrated through discussion and literature learning projects.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 553 Computer Literacy and Evidence Based Practice

Addresses the foundational skills practicing therapists need to effectively integrate, manage and communicate information for clinical practice, research and professional activities. This course exists in three parts. Part I focuses on accessing and evaluating clinical information. Part II focuses on information organization and manipulation. Part III focuses on the management and professional communication of information.

Prerequisite: Admission to Graduate Health Sciences Center Program
1 - 2 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 554 Lab View

Introduces students to the use of LabView computer programming language for the collection, manipulation and processing of data collected from instruments which measure various aspects of human movement. Examples of instruments include electromyographs (EMG), electrogoniometers and dynamometers (e.g., Cybex). Students will learn to do basic programming with LabView and learn to use programs (virtual instruments -VIs) written by the instructor and others. Students will use the Windows 98 version of LabView v5.11 or v6.02.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 556 Outcomes Measurement and Analysis

Introduces students to various outcome measures relating to impairments, functional limitations and disability, general health status, and patient/client satisfaction used to guide physical therapy practice across the lifespan. Measurement properties will be explored and strategies discussed to appropriately assess and select various outcome measurement scales. Critical appraisal of the literature will provide the basis for making clinical decisions regarding selection of the most beneficial outcome measure for an individual patient/client, service

and/or program.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 558 Evidence Based Practice Seminar

Explores a broad spectrum of research literature examining physical therapy practice. Uses literature as a tool to integrate students critical inquiry skills and depth of knowledge in biomechanical analysis, musculoskeletal measurement, cardiopulmonary functions, motor control and motor learning theory. Students judge the strength of the evidence of each paper and draw conclusions regarding its clinical significance in neuromotor and musculoskeletal rehabilitation. When lacking evidence, challenges students to suggest ways to strengthen the current evidence. Requires each student to facilitate a class discussion.

Prerequisite: HAY 550, 551 (entry level DPT students only); HAY 520, 521; or HAY 536, 537; or HAY 531, 533; or HAY 615, 616.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 560 Foundations of Professional Practice in Physical Therapy

Examines the roles and responsibilities of the physical therapist in the present health care environment. Historical and ethical foundations of the profession as well as current issues changing the profession are discussed. Stresses the scope and importance of the DPT degree and the need to become an active member in the APTA. Explores the dynamics of professional relationships with patients, families and other care providers and introduces the format and function of the APTA Guide to Physical Therapist Practice.

Prerequisite: Admission to Graduate Health Sciences Center Program
2 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 561 Teaching, Consulting, Communicating in Clinical Education

Examines different learning styles and their effect on the learning environment. The fundamentals of teaching as they apply to patient education, professional inservices, and clinical education are presented and practiced. Students are introduced to aspects of verbal and non-verbal communication, with the opportunity to work in small groups for application of these principles. The aspect of physical therapy consultation in clinical experiences as well as professional opportunities is explored. Preparation for the first clinical education experience, specifically clinical site and academic program expectations, professional behavior, and student responsibilities, are discussed in detail.

Prerequisite: Admission to Graduate Health Sciences Center Program
2 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 562 Teaching Skills for Clinical Instruction

Provides framework for assuming the role of a clinical instructor. Includes the preplanning period, structuring the actual clinical experience, and types of evaluation provided to physical therapy students. Discusses the exceptional student in the clinical setting. Explores legal aspects and alternative models of clinical education. *Prerequisite:* HAY 561, 595 and 596.

Prerequisite: Admission to Graduate Health Sciences Center Program
1.5 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 563 Teaching and Physical Therapy Practice

Introduces students to adult learning principles and strategies for teaching in the academic and clinical environments. Explores teaching/learning philosophies, characteristics of the adult learner, learning styles, self-directed learning, and reflective practice. Discusses the clinical environment as a community of practice, with emphasis on the student, clinical instructor and community as a learning triad. Students will be given the option to become credentialed clinical instructors

through the American Physical Therapy Association.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 570 Physical Therapy Case Studies I

First phase in a 3-course sequence designed to develop the student's ability to capture and utilize relevant knowledge and ideas, apply them appropriately within the patient management model, and assess the effectiveness of their interaction. In addition to examining, evaluating, prognosticating, diagnosing and developing and implementing intervention strategies, the students will observe, discover and rediscover how the four systems (neuromotor, cardiopulmonary, musculoskeletal and integumentary) work together to influence function. Faculty and lab assistants will design and mentor problem-based activities and case studies that require students to problem solve, hypothesize and reason. Students will be expected to extract information from a case study, prioritize and sequence patient contact, and demonstrate professional behaviors including effective communication skills. Cases will incorporate patients from the community of diverse cultural backgrounds with and without pathology of the neuromotor, cardiopulmonary, musculoskeletal and integumentary systems. *Prerequisite:* year 1 Fall courses.

Prerequisite: Admission to Graduate Health Sciences Center Program
1 credit, Lecture, Laboratory
S/F graded.

HAY 571 Physical Therapy Case Studies II

Requires the development of examination, evaluation, and intervention plans for assigned patients in an acute care setting under faculty mentorship. Utilizes patients from the pediatric, oncology, general medicine, AIDS, neurological and surgical units. Requires students to manage time, delegate responsibility, document efficiently, perform appropriate discharge planning, and justify clinical decisions at each step in this process. Requires student group presentations with defense of clinical decisions for assigned case studies at the end of the integrative week. *Prerequisite:* year one courses.

Prerequisite: Admission to Graduate Health Sciences Center Program
1 credit, Lecture, Evening Lecture
S/F graded.

HAY 572 Physical Therapy Case Studies III

Third phase in a 3-course sequence designed to integrate course material throughout the first two years of the program curriculum. With each case study course, the demand on students for synthesis and integration will increase. Faculty and lab assistants involved in year 2 will design and mentor activities and case studies that require students to examine, evaluate, determine a differential diagnosis, prognosticate and develop and implement intervention strategies for case studies of all ages from diverse cultural backgrounds with complex neuromotor, cardiopulmonary, musculoskeletal, and/or integumentary pathology/dysfunction. *Prerequisite:* all courses in year 1 and year 2.

Prerequisite: Admission to Graduate Health Sciences Center Program
1 credit, Lecture, Laboratory
S/F graded.

HAY 576 Clinical Decision Making

Examines methodology and advancement of clinical decision-making skills in the present health care environment. Focuses on a patient-centered care approach.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture
Letter graded (A, A-, B+, etc.).

HAY 580 Practicum

The practicum will be performed in groups of three or fewer students. Students will identify career paths in Physical Therapy they would like to experience and study in greater depth. Topics include: Management and Administration, Research, Education, Clinical Practice or Professional Activities. The course coordinators will determine if the propos-

al is meaningful and realistic and identify appropriate mentors and realistic timetables for all written drafts.

Prerequisite: Admission to Graduate Health Sciences Center Program 3 - 6 credits, Required but Unsupervised, Tutorial Letter graded (A, A-, B+, etc.).

May be repeated 2 times for credit.

HAY 595 Clinical Practice I

An eight-week course that provides students with their first full-time clinical experience. A licensed physical therapist is responsible for close supervision and guidance during the learning experience. Provides students with the opportunity to utilize the patient management model of care. Students participate in documentation, coordination of care and discharge planning. Students will perform reexaminations, measure patient outcomes, and modify interventions accordingly. Students will perform an inservice during this clinical experience. Prerequisite: all year 1 courses.

Prerequisite: Admission to Graduate Health Sciences Center Program 8 credits, Required but Unsupervised, Clinical S/F graded.

HAY 596 Clinical Practice II

An eight-week course that provides students with their second full-time clinical experience. A licensed physical therapist is responsible for guidance and supervision during the learning experience. Provides students with the opportunity to utilize the patient management model of care. Students participate in documentation, coordination of care and discharge planning. Students will perform reexaminations, measure patient outcomes, and modify interventions accordingly. A written case study and an in-service are required by students during this clinical experience. Prerequisite: all year 1 and year 2 courses.

Prerequisite: Admission to Graduate Health Sciences Center Program 8 credits, Required but Unsupervised, Clinical S/F graded.

HAY 597 Clinical Practice III

An eight-week course that provides students with their third full-time clinical experience. A licensed physical therapist is responsible for guidance and supervision during the learning experience. The students will provide direct patient care, collaborate with other health care professionals, coordinate care of patients, delegate and supervise support personnel, and promote wellness and prevention services. Students are able to incorporate outcome measures into the evaluation process and suggest specific measures useful for their particular clinical setting. Students will perform an inservice during this clinical experience.

Prerequisite: Admission to Graduate Health Sciences Center Program 8 credits, Required but Unsupervised, Clinical S/F graded.

HAY 599 Clinical Internship

This is a sixteen-week full-time capstone clinical experience, supervised by a licensed physical therapist. Students are expected to render evidence-based practice and perform as entry-level physical therapists upon completion of this clinical. Students are expected to fully participate in all aspects of physical therapy's scope of practice including direct patient care, documentation, consultation, education, critical inquiry, and administration, as applicable to the clinical setting. In all aspects of this clinical practice, the student will be able to convert information needs into answerable questions and find the best evidence with which to answer these questions with maximum efficiency. Students will perform an inservice during this clinical experience. The students will also explore one area of interest outside of patient management through the completion of a project designed to meet the needs of the clinical practice and is coordinated by the PT program's ACCEs and the clinical site's CCCE. Prerequisite: all course work and clinical 1-3.

Prerequisite: Admission to Graduate Health Sciences Center Program 16 credits, Required but Unsupervised, Clinical Letter graded (A, A-, B+, etc.).

HAY 601 Issues in Global Health Care

Introduces students to theories of health and wellness including national and international public health initiatives. The epidemiology of high risk factors, intrinsic and extrinsic, will be explored. Social and medical aspects of disability will be analyzed. Examines the current and projected role of the physical therapist and other health care workers in the evolving health care environment.

Prerequisite: Admission to Graduate Health Sciences Center Program 2 credits, Lecture Letter graded (A, A-, B+, etc.).

HAY 602 Issues in Health Care Administration

Provides an understanding of the role of manager/supervisor as it relates to the goals and objectives of a physical therapy practice or department. Topics include communication skills in business management; ethical decision making in physical therapy practice; delivery systems; legislation and regulation; business planning; marketing and public relations.

Prerequisite: Admission to Graduate Health Sciences Center Program 2 credits, Lecture Letter graded (A, A-, B+, etc.).

HAY 610 Fitness and Wellness

Students will examine and integrate the principles of strength, endurance, speed and agility training to formulate a wellness screening and program design. These principles will be used and a framework to examine the physical therapist's role in women's health, occupational health and injury prevention, sports medicine (pre-, post-, and in-season), obesity and athletic programs for the mentally and physically challenged. Students will explore the evidence for various fitness techniques.

Prerequisites: Admission to Health Sciences Center graduate program
Prerequisite: Admission to Graduate Health Sciences Center Program 3 credits, Lecture Letter graded (A, A-, B+, etc.).

HAY 611 Complementary and Alternative Approaches to Rehab and Wellness

Examines and integrates the principles of complementary and alternative approaches such as Pilates, Yoga, Tai Chi, Acupuncture, and Feldenkris into physical therapy directed wellness program. Explores the evidence for utilization of these techniques in selected patient populations.

Prerequisites: Admission to Health Sciences Center graduate program
Prerequisite: Admission to Graduate Health Sciences Center Program 3 credits, Lecture Letter graded (A, A-, B+, etc.).

HAY 615 Applied Physiological Foundations of Exercise

Explores literature related to the physiological basis for exercise, in healthy and at risk populations and in patients with disease, at the multi-system level. Moves from substrates and their effects on exercise, through metabolic processes, to energy systems. Identifies various exercise states, and explores the body's immediate response and long-term adaptation. Nutrition and its impact on movement will be detailed. Information from metabolic gas analysis will be coupled with other clinical tests and measures to design exercise programs. Culminates in the application of principles of exercise physiology in the prescription of exercise for health and prevention across the lifespan and in the treatment of various patients and at risk populations. Current research will provide the basis for examining the evidence underlying principles of exercise for various populations across the lifespan.

Prerequisite: Admission to Graduate Health Sciences Center Program 3 credits, Lecture Letter graded (A, A-, B+, etc.).

HAY 616 Exercise Prescription

Utilizes principles of exercise and topics in fitness to describe cardiopulmonary care across the lifespan with emphasis on special populations. Examines exercise prescription and its inclusion in a total plan

of care. Explores various practice settings, including acute care, sub-acute cardiopulmonary rehabilitation, and outpatient fitness clinics.

Prerequisite: HAY 615

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture

Letter graded (A, A-, B+, etc.).

Program in Occupational Therapy Leading to the Bachelor of Science Health Science/Master of Science Occupational Therapy Science Degree

Program Director: Vera-Jean Clark-Brown

Academic Field Work Coordinator: Donna M. Costa

Associate professors: Pamela Block, Beverly P. Horowitz

Assistant professors: Vera-Jean Clark-Brown, Donna M. Costa, Karen B. DeChello, Eva L. Rodriguez, Elizabeth Vanner

Instructors: Carol K. Chamoff, Jamie M. Geraci

The department of occupational therapy offers an upper-division three year program leading to the Bachelor of Science Health Science/Master of Science Occupational Therapy Degree.

Occupational therapy is the art and science of directing an individual's participation in selected tasks to restore, reinforce and enhance performance; facilitate learning of those skills and functions essential for adaptation and productivity; diminish or correct pathology; and promote and maintain health. Reference to occupation in the title is in the context of individuals' goal directed use of time, energy, interest and attention. Its fundamental concern is the development and maintenance of the capacity throughout the life span to perform with satisfaction to self and others those tasks and roles essential to productive living and to the mastery of self and the environment.

Occupational therapy provides service to those individuals whose abilities to cope with tasks of living are threatened or impaired by developmental deficits, the aging process, poverty, cultural differences, physical injury or illness, or psychological and social disability.

Occupational therapy serves a diverse population in a variety of settings such as hospitals and clinics, rehabilitation facilities, long-term care facilities, extended care facilities, sheltered workshops, schools and camps, private homes and community agencies.

The Occupational Therapy Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220. AOTA's phone number is (301) 652-AOTA. Graduates of the program will be able to sit for the national certification examination for the occupational therapist administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be an Occupational Therapist, Registered (OTR). Most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT Certification examination.

Admission Requirements

Candidates for the occupational therapy program must meet the upper-division admission requirements of the School of Health Technology and Management. The requirements may be fulfilled through previously completed college studies.

In addition to the general academic requirements of the School of Health Technology and Management, the occupa-

tional therapy program requires candidates to meet the school's natural science requirements by successfully completing eight credits of biology, and eight credits each of chemistry and physics, all with laboratories and designed for science majors. Completion of science courses must be within the past ten years. Six credits of Introduction to Psychology and Abnormal Psychology are required. Candidates must complete required course work by the end of the spring term of the year for which application is made. Certification in cardiopulmonary resuscitation (CPR) and first aid are required. Preference is given to applicants with a grade point average of 3.0 or higher. A minimum of 40 hours of volunteer experience in more than one setting under the supervision of an occupational therapist (OTR) is also required for admission to the program.

Program Requirements

Occupational therapy students must complete the core course requirements of the School of Health Technology and Management. In addition, the following courses are required:

Basic Science Courses/Other Health Technology and Management Courses

Course	Title	Credits
HAS 363	Computer Literacy for Health Professionals	1
HAS 550	Statistics and Data Analysis	3
HAS 551	Research Design	2
HBA461	Regional Human Anatomy	5
HBV 350	Physiology	4

Professional Courses (Year One)

Course	Title	Credits
HAO 310	Neuroscience	4
HAO 313	Introduction to Occupational Therapy	1
HAO 315	Foundations of Occupational Therapy Practice	3
HAO 319	Kinesiology for Occupational Therapy	4
HAO 320	Growth and Development for Occupational Therapy	4
HAO 323	Mental Health Concepts	2.5
HAO 324	Psychosocial Theory and Practice	2.5
HAO 330	Pediatric Theory and Practice	4
HAO 332	Adult Physical Dysfunction	4
HAO 338	Substance Abuse and Occupational Therapy	2
HAO 374	Professional Behaviors I	1.5
HAO 385	Conditions in Occupational Therapy Practice	2
HAO 396	Fieldwork Level I*	1
HAO 491	Case Studies I	1

Professional Courses (Year Two)

Course	Title	Credits
HAO 334	Acute Care	1
HAO 340	Prosthetics and Orthotics	2
HAO 397	Fieldwork IB	1
HAO398	Fieldwork IC	1
HAO 418	Assistive Technology and Universal Design	3
HAO 421	Physical Agent Modalities for the Occupational Therapist	1
HAO 430	Sensory Integration	2
HAO 439	Patient Education	2
HAO 440	Gerontology and Occupational Therapy	3
HAO 485	Vision, Perception and Cognition	2
HAO 518	Work Programs in Occupational Therapy	2
HAO 531	Management Concepts	1
HAO 551	Research Design	2
HAO 552	Research Tutorial	2

HAO 574	Professional Behaviors II	2
HAO590	Independent Study	1
HAO 592	Case Studies II	2
HAO 596	Fieldwork IIA**	12

Professional Courses (Year Three)

Course	Title	Credits
HAO 530	Community, Occupation and Health	3
HAO 532	Emerging Areas of Practice	2
HAO 534	The OT Manager	3
HAO 547	Grant Writing	2
HAO 562	Principles of Instruction	3
HAO 575	Professional Transition Seminar	1
HAO 580	Special Topics in Occupational Therapy	2
HAO585	Disability Studies	1
HAO 590	Independent Study	3
HAO 593	Case Studies III	2
HAO 597	Fieldwork IIB**	12
HAO 598	Fieldwork IIC**	10

Courses

HAO 310 Neuroscience

Presents an integrated approach to the general principles of organization and function of the autonomic, peripheral and central nervous system. Presents principles in a Systems Approach to Neuroscience. The anatomy of a system is followed with its physiology, pathophysiology and clinical relevance to the occupational therapist. Clinical topics include neurological testing, control of posture and balance, pain, muscle tone and spasticity, feedback vs. feedforward control, reflex vs. voluntary control, control of reaching and locomotion, perception and learning.

Prerequisites: HBA461, HBY 350, HAO 319

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAO 313 Introduction to Occupational Therapy

Introduces the history and essential aspects of occupational therapy. Examines philosophical base, definitions related to the practice, scope of practice and role delineations. Provides an orientation to professional organizations, statutes, and credentialing.

1 credit, Lecture

HAO 315 Foundations of Occupational Therapy

Explores major theories and frames of reference underlying contemporary occupational therapy practice. Reviews sociological and anthropological themes, as well as the impact of the delivery of health care services. Presents theoretical constructs of occupation, purposeful activity and occupational science. Introduces activity analysis, structured observation and documentation. Professional terminology will be studied, including Uniform Terminology, the Occupational Therapy Practice Framework, the Guide to Practice, and ICDH-2.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture, Laboratory

HAO 319 Kinesiology for Occupational Therapy

Explores the kinetics and kinematics of normal, purposeful human movement. Integrates knowledge of human anatomy, physiology, and physics and biomechanics of the human body. Evaluation procedures such as manual muscle testing and measurement of joint range of motion are studied. Emphasizes importance of human movement as it relates to human function in occupational roles. *Prerequisites:* HBA461;

*FWI-Fieldwork Level I is integrated into attached coursework and is a pre-clinical experience. It generally consists of observation and very limited hands on experience. Each is a maximum of 40 hours in length.

**FWII A, B, & C are full-time clinical fieldwork experiences.

Corequisite: HBP310

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture, Laboratory

HAO 320 Life Span Growth and Development for Occupational Therapy

Provides students with knowledge of the major developmental theories and factors influencing the normal developmental process. Examines developmental norms and sequences and emphasizes physical (sensory and motor), cognitive, language and psychosocial tasks. Discusses cultural and environmental influences on development. The coursework covers the entire lifespan, from prenatal and child, through adolescence and adult life stages to dying and death.

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, Lecture

HAO 321 Psychosocial Dysfunction and Occupational Therapy I

The psychosocial aspects of disability as they affect the function of the individual, the family and the community will be explored. Lectures and presentations related to the recognition of psychosocial problems and how they can be better understood, minimized, or eliminated are included in this course. The course exposes the occupational therapy student to the DSM IV and the pharmacology of major illnesses identified by the DSM IV. A review of psychological theories takes place. The teaching of psychosocial frames of reference, the occupational therapist's role in patient evaluation, selection, analysis and gradation of treatment techniques are considered an integral part of this course. The importance of group dynamics in the personal and professional growth of the occupational therapy student will be emphasized. The use of group theories, the structure and function of groups in treatment, the analysis of group treatment and group activities and the therapeutic use of self are the focus in laboratory, lecture, and fieldwork level I sessions.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2.5 credits, Lecture, Laboratory

HAO 322 Psychosocial Dysfunction and Occupational Therapy II

The psychosocial aspects of disability as they affect the function of the individual, the family and the community will be explored. Lectures and presentations related to the recognition of psychosocial problems and how they can be better understood, minimized, or eliminated are included in this course. The course exposes the occupational therapy student to the DSM IV and the pharmacology of major illnesses identified by the DSM IV. A review of psychological theories takes place. The teaching of psychosocial frames of reference, the occupational therapist's role in patient evaluation, selection, analysis and gradation of treatment techniques are considered an integral part of this course. The importance of group dynamics in the personal and professional growth of the occupational therapy student will be emphasized. The use of group theories, the structure and function of groups in treatment, the analysis of group treatment and group activities and the therapeutic use of self are the focus in laboratory, lecture, and fieldwork level I sessions.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2.5 credits, Lecture, Laboratory

HAO 323 Mental Health Concepts Family Dynamics

Explores the psychosocial aspects of disability as they affect the function of the individual, the family and the community. Includes lectures and presentations related to the recognition of psychosocial problems and how they can be better understood, minimized, or eliminated. Delineates the provision of mental health services across all levels of care. Discusses multicultural factors as they relate to mental illness and

the recovery process. Exposes the student to the DSM IV and the pharmacology of major illnesses identified by the DSM IV and reviews psychological theories. Interviewing skills are demonstrated and practiced in the lab sessions. Emphasizes the importance of group dynamics in the student's personal and professional growth. Focuses on the use of group theories, the structure and function of groups in treatment, the analysis of group treatment and group activities, and the therapeutic use of self.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2.5 credits, *Lecture, Laboratory*

May be repeated 1 times for credit.

HAO 324 Psychosocial Theory and Practice

Offers increased understanding of the identification and treatment of psychosocial disabilities across the life span. Teaches major assessment tools and frames of reference used in contemporary occupational therapy mental health practice and includes documentation skills. Presents additional therapeutic activities, their use and gradation in psychosocial practice. Addresses the history, practice and legislation concerning community mental health practice, psychiatric rehabilitation, and work with developmentally disabled populations.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2.5 credits, *Lecture, Laboratory*

HAO 330 Occupational Therapy Theory and Practice in Pediatrics

Presents occupational therapy theories, assessments, and treatment processes as they pertain to current pediatric practice. Reviews the predominant models of current practice and integrates effective treatment interventions. Emphasizes abnormal development, acute and chronic medical conditions and their resulting effects on the central nervous system, orthopedic and musculoskeletal systems. Reviews major causes of disability, the etiology and prognoses. Discusses the impact on the family system and the cultural implications. Students learn to select and adapt age and developmental stage appropriate evaluation and treatment intervention strategies. Teaches students to analyze occupationally-based activities.

Prerequisites: HAO 315, HAS 300, HAO 320, HBA461, HAO 319, HBP 310, HBY350;

Corequisite: HAO 310

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, *Lecture, Laboratory*

HAO 332 Occupational Therapy Theory and Practice with Adults

Focuses on the evaluation and treatment of adults with physical disabilities. Examines injury, illness, disease and the effects on occupational performance in the areas of work, self-care and leisure. Presents relevant occupational therapy theories and practice. Explores frames of reference, evaluation/assessments, treatment interventions, selection of age-appropriate occupation-based activities, and activity analysis. Offers opportunity to refine documentation and clinical reasoning skills through written and verbal assignments.

Prerequisites: HBA 461, HBY 350, HAO 319, HBP 310, HAO 320, HAO385

Prerequisite: Admission to Undergraduate Health Sciences Center program

4 credits, *Lecture, Laboratory*

HAO 334 Acute Care

This course covers the occupational therapist's scope of practice, as well as the current assessment, treatment, and documentation methods utilized by occupational therapists in an acute care setting. Students are introduced to high technology equipment found in an acute care setting, i.e. life support, ICU, CCU, PCU, NICU monitoring devices. Areas discussed include acute care risk factors, the complicated diag-

noses often seen in this setting, the role of occupational therapists with in this setting, frames of references and treatment techniques, modalities utilized.

Prerequisites: HBA 461, HBY 350, HBP 310, HAO 310, 319, 320, 323, 324, 332, 330, 385.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, *Lecture*

HAO 338 Substance Abuse and Occupational Therapy

Utilizes a life-span approach to examining the physiological, psychological and societal effects of substance abuse on the individual and their family system. Reviews the major categories of drugs, and specific drugs in each category, and the effects and withdrawal symptoms. Discusses major theories of substance abuse and philosophies, treatment models, and age specific interventions. Emphasizes the role of the occupational therapist in the identification and evaluation of the individual using/abusing substances. Students learn to design group and individual treatment interventions for specific populations.

Prerequisites: HAS 300, HAO 320, HAO 323, HAO 324, HAO 330;

Corequisite: HAO 332

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, *Lecture*

HAO 340 Prosthetics and Orthotics

Utilizes lecture, discussion and laboratories to teach students about the design, biomechanical principles, fit, function, use, care and patient education involved with upper extremity orthotics. Although there is an emphasis on the design, fabrication and use of upper extremity orthotics, students are introduced to upper and lower extremity prosthetic devices, as well as the use of splints in burn care.

Prerequisites: HBP 310, HBA461, HBY 350, HAO 319, HAO 330, HAO 332, HAO 385, HAO 310. *Corequisite:* HAO 421.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, *Lecture, Laboratory*

HAO 374 Professional Behaviors I

Focuses on expectations of professional behavior at fieldwork sites. Integrates reflective journals and professional portfolio to document clinical competence. Examines the nature of the supervisory process and how to maximize the use of clinical and administrative supervision. Explores cultural competency and the scope of diversity in healthcare.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1.5 credits, *Lecture, Laboratory*

HAO 385 Conditions in Occupational Therapy

Provides foundation of clinical diagnoses, symptomatology, and prognosis of common medical conditions across the life span. Emphasizes the impact of disease on society, families and individual physical, cognitive and emotional function.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, *Lecture*

HAO 396 Fieldwork IA

The first of three introductory level clinical experiences. Offers opportunity to identify symptomatology, observe treatment interventions, and formulate treatment plans in a mental health setting. Promotes effective communication skills used with patients and professionals. Uses reflective journals to monitor development of professional behaviors and skills.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, *Required but Unsupervised, Clinical*

HAO 397 Fieldwork IB

The second of three introductory level clinical experiences. Offers

opportunity to identify symptomology, observe treatment interventions, and formulate treatment plans in a pediatric practice setting. Promotes effective communication skills used with patients and professionals. Uses reflective journals to monitor development of professional behaviors and skills. Prerequisites: HAO 310, 320, 330, 323, 324, 374, 385.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Required but Unsupervised, Clinical

HAO 398 Fieldwork IC

The third of three introductory level clinical experiences. Offers opportunity to identify symptomology, observe treatment interventions, and formulate treatment plans in an adult physical disabilities practice setting. Promotes effective communication skills used with patients and professionals. Uses reflective journals to monitor development of professional behaviors and skills. Prerequisites: HAO 310, 320, 323, 324, 332, 374, 385.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Required but Unsupervised, Clinical

HAO 418 Rehabilitation Design

The course centers on adapting the environment to improve the patient's quality of life. It examines the therapist's ability to help the patient reintegrate into society. Areas covered include the Americans with Disabilities Act, mobility (power and manual), seating, positioning systems, adapted toys, augmentative communication systems, computer access, environmental control units, independent living aids, and vocational adaptations. Prerequisites: successful completion of all junior level core and professional courses.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture

HAO 421 Physical Agent Modalities Occupational Therapist

Presents physical agent modalities utilized as adjuncts to occupational therapy treatment. Reviews therapeutic applications of heat and cold, ultrasound, paraffin, TENS and functional electric stimulation. Provides opportunity to practice applications. Addresses physiological effects of physical agent modalities and their clinical uses and contraindications.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Lecture, Laboratory

HAO 430 Sensory Integration Theory and Practice in Occupational Therapy

Enhances basic knowledge and skills regarding sensory integration theory and techniques. Identifies types of sensory integrative dysfunction, reviews approaches to clinical assessment, outlines characteristics of both direct and indirect modes of intervention, and addresses the issue of effectiveness research. Prerequisites: HAO 310, HAO 315, HAO 320, HAO 330.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture

HAO 439 Patient Community Health, Patient Education

Lecture, discussion and activities cover the concepts of health, disease, prevention, and promotion. Students knowledge regarding the health-care worker's role in prevention of disease is enhanced. Public health and prevention principles are further explored. The course refines the occupational therapy student's skills in developing effective strategies for communication and teaching information and procedures to patients, staff, and others responsible for patient care. The efficacy of various educational approaches is explored.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Lecture

HAO 440 Gerontology and Occupational Therapy

The aging process, with its physiological, sociological, and psychological effects is reviewed. Theories, issues, and techniques specific to geriatric rehabilitation, home care, day treatment programs, hospice, injury prevention and safety are covered. The role of occupational therapy with the aging population in acute care, rehabilitation, and community programs is emphasized. Students learn assessment techniques, treatment planning strategies, and methods of utilizing community resources to maximize the function of the elderly.

Prerequisites: HAO 320, 323, 324, 332, 385, 396, 491.

Prerequisite: Admission to Undergraduate Health Sciences Center program

3 credits, Lecture

HAO 451 Research Seminar in Occupational Therapy

Emphasizes the importance of national and international research for informed practice decisions. Focuses on analytic skills needed to critique published peer reviewed research and to develop research questions and hypotheses. Students work collaboratively to design a beginning-level research project and write a short research proposal. Stresses basic oral communication and professional writing skills for publication and professional presentations. Provides a foundation for future professional and scholarly activities.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture

HAO 460 Alternatives to Standard Practice

Occupational therapy students are provided with an opportunity to explore innovative nontraditional areas of practice. They have the opportunity to hear and to meet occupational therapists and health care practitioners who have ventured into private practices, consulting firms, or other new territories. Students design an alternative workplace and, or practice through a paper. Occupational therapy's Standards of Practice, the occupational therapy Code of Ethics, licensing, certification rules and regulations, occupational therapy role delineations in community and non-traditional settings, current articles pertaining to the topics being covered in class and new trends in health care are read, discussed and reviewed.

Prerequisites: HAO 321, HAO 330, HAO 332, HAO 440, HAO 496, HAO 350

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture

HAO 482 Work Programs in Occupational Therapy

Provides students with a foundation of knowledge of ergonomics, functional capacity evaluations and other areas of work practice for occupational therapists. Through a combination of lecture, readings, demonstrations and assignments, work practice settings, federal regulations for work related programs and certification requirements for this emerging practice area are presented. Explores ergonomic principles, injury prevention, workplace safety, job analysis, tests, measurements and assessments, functional capacity evaluations and key components of work programs and entitlements for the psychiatrically disabled.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Lecture

HAO 485 Vision, Perception and Cognition

Provides students with theoretical rationale and necessary skills to evaluate and treat a wide range of visual, perceptual and cognitive task components. Through a combination of lecture, demonstrations, readings and assignments, students will evaluate patients with visuocognitive dysfunction. Presents a variety of treatment approaches/techniques that can improve functional performance and outcome.

Prerequisite: Admission to Undergraduate Health Sciences Center program

2 credits, Lecture

HAO 490 Independent Study

An elective learning experience that combines clinical observation with an occupational therapist in a practice setting, with faculty mentored learning in a specialty area of the student's choice.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1.5 credits, Tutorial

May be repeated 1 times for credit.

HAO 491 Case Studies I

This seminar-style course introduces the student to clinical reasoning skills through case study analysis. Students will be given basic information about a variety of clinical cases, and then in small groups will analyze data, obtain additional information, develop treatment intervention strategies, and then present cases in written and verbal formats with its accompanying rationale for their decisions.

Prerequisites: HAO 315, 320, 323, 324.

Prerequisite: Admission to Undergraduate Health Sciences Center program

1 credit, Seminar

HAO 496 Fieldwork IIA

Fieldwork II is designed to promote clinical reasoning and reflective practice, to transmit the values and beliefs that enable the application of ethics related to the profession, to communicate and model professionalism as a developmental process and a career responsibility, and to develop and expand a repertoire of occupational therapy assessments and treatment interventions related to human performance.

Prerequisites: successful completion of all professional and core courses taken prior to HAO 496.

Prerequisite: Admission to Undergraduate Health Sciences Center program

10 - 14 credits, Required but Unsupervised, Clinical
S/F graded.

HAO 497 Fieldwork IIB

Fieldwork II is designed to promote clinical reasoning and reflective practice, to transmit the values and beliefs that enable the application of ethics related to the profession, to communicate and model professionalism as a developmental process and a career responsibility, and to develop and expand a repertoire of occupational therapy assessments and treatment interventions related to human performance.

Prerequisites: successful completion of all professional and core courses taken prior to HAO 497

Prerequisite: Admission to Undergraduate Health Sciences Center program

10 credits, Required but Unsupervised, Clinical
S/F graded.

HAO 516 Assistive Technology/Rehabilitation Design for OT

Centers on adapting the environment to improve the client's quality of life. Examines the therapist's ability to help the patient reintegrate into society. Areas covered include the Americans with Disabilities Act, mobility, (power and manual), seating/positioning systems, adapted toys, augmentative communication systems, computer access, environmental control units, independent living aids, and vocational adaptations.

Prerequisite: Admission to Graduate Health Sciences Center Program

2 credits, Lecture

Letter graded (A, A-, B+, etc.).

HAO 518 Work Programs in Occupational Therapy

Ergonomics consulting, welfare to work services and ticket to work services have been identified as emerging practice areas for occupational therapists. Offers opportunity to learn basics of this practice area including knowledge of ergonomics, work hardening, functional capacity evaluations, and vocational programs. Presents information about the federal regulations for work-related programs, and the professional certification requirements for this practice area.

Prerequisites: HAO 332, 385, 485.

Prerequisite: Admission to Graduate Health Sciences Center Program

2 credits, Lecture

Letter graded (A, A-, B+, etc.).

HAO 530 Community, Occupation and Health

Presents the importance of occupation as a precursor to health, and of occupational therapy as a health promoting profession. Examines the theories and applications of occupational science through a review of the professional literature and class discussion. This occupational perspective of health will be the foundation for each student's design of a community-based practice program. Reviews social theories, socio-cultural and socio-political trends that impact the individual's health status and the delivery of health care services. Offers experience in designing/administering needs assessments in the community, and in organizing outcome data.

Prerequisite: Admission to Graduate Health Sciences Center Program

3 credits, Lecture

Letter graded (A, A-, B+, etc.).

HAO 531 Management Concepts

Introduces the student to the practices and theories of health care management. Presents an overview of management concepts, techniques, and service management functions. *Prerequisites:* successful completion of undergraduate Occupational Therapy curriculum.

Prerequisite: Admission to Graduate Health Sciences Center Program

1 credit, Lecture

Letter graded (A, A-, B+, etc.).

HAO 532 Emerging Areas of Practice

Discusses the delivery of occupational therapy services in emerging areas of practice. Provides students with alternative models of service delivery and occupational therapy practice. Explores role development and delineation; ethical practice; malpractice; liability concerns; insurance reimbursement; scope of practice and licensure statutes related to emerging areas.

Prerequisites: HAO 323, 324, 330, 332, 440, 530.

Prerequisite: Admission to Graduate Health Sciences Center Program

2 credits, Lecture

Letter graded (A, A-, B+, etc.).

HAO 542 Patient Education

Provides working knowledge of the theories, approaches, and procedures utilized in communicating health and disease information to patients, their families, collateral staff and the community at large. Concepts of health, disease, and health promotion are examined, along with the health belief models. Further develops the students' ability to communicate effectively with a wide variety of audiences. Topics include evaluation of literacy, design of instructional materials, evaluating audiovisual materials, health promotion strategies, marketing educational interventions, and measuring outcomes of interventions. Lectures, learning activities and classroom presentations will be utilized to meet the course objectives. *Prerequisites:* successful completion of undergraduate Occupational Therapy curriculum.

Prerequisite: Admission to Graduate Health Sciences Center Program

2 credits, Lecture

Letter graded (A, A-, B+, etc.).

HAO 547 Grant Writing for Occupational Therapy

Presents students with the practical skills needed to transform pilot research and program development projects into full-scale grant proposals. Discusses the beginning of the grant writing process, identifying resources, determining funding priorities, and how to prepare a competitive grant proposal to obtain funds from public or private sources at the Federal, state and local levels.

Prerequisites: HAO 551, HAO 552, HAO 590

Prerequisite: Admission to Graduate Health Sciences Center Program

3 credits, Lecture

Letter graded (A, A-, B+, etc.).

HAO 550 Statistics and Data Analysis for Occupational Therapy

Presents fundamentals of statistics and data analysis. Topics include descriptive statistics, statistical inference, tests for experimental comparisons, correlation, regression, and non-parametric tests. Students learn to use available computer programs for data management and statistical analysis. Discusses validity and reliability of various statistical techniques.

Prerequisites: HAO 551, HAO 590

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture

Letter graded (A, A-, B+, etc.).

HAO 551 Research Design for Occupational Therapy

Provides a foundation for future professional and scholarly activities, stressing the importance of national, international, and evidenced-based research for informed practice decisions. Explores research methods and the analytical skills for reviewing research articles. Students critique published peer-reviewed research as well as identifying research topics of interest. The literature review process is implemented. Students work collaboratively to develop research questions and hypotheses while designing a beginning-level research project. Integrates the importance of ethics in research, institutional review board processes and human subjects research training. Emphasizes oral communication and professional writing skills for publication and professional presentations as students prepare and present the beginning segments of their project proposal.

Prerequisite: successful completion of undergraduate Occupational Therapy curriculum.

Prerequisite: Admission to Graduate Health Sciences Center Program
2 credits, Lecture

Letter graded (A, A-, B+, etc.).

HAO 552 Research Tutorial for Occupational Therapy

Offers the opportunity to apply and demonstrate knowledge of research methodology by conducting, designing or participating in a research project under the mentorship of experienced clinicians. Students begin to develop their research proposals by identifying topical areas and formulating hypotheses within small groups. They are expected to demonstrate competencies in identifying and evaluating conclusions from theory and available data in relation to questions of practice.

Prerequisites: HAO 551, HAO 590

Prerequisite: Admission to Graduate Health Sciences Center Program
1 credit, Tutorial

Letter graded (A, A-, B+, etc.).

HAO 562 Principles of Instruction

Examines theories of adult learning and education. Focus on principles of curriculum design, various curriculum models, and instructional methods used in OT education. Reviews evaluation and measurement methods. Students design course objectives and outcomes. Discusses elements of successful oral presentations and effective use of instructional media.

Prerequisites: Open to third year OT students

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Lecture

Letter graded (A, A-, B+, etc.).

HAO 574 Professional Behaviors II

Builds on previously learned material covered in Professional Behaviors I. Students will work on more advanced documentation and communication skills required for entry-level practice. Provides opportunity to discuss professional behavior expectations from their clinical fieldwork assignments. Use of the reflective journal to enhance professional development, and the continuation of the professional portfolio will assist students in developing and documenting their clinical competence. Explores the supervisory process in greater detail, in the context of its use for personal and professional growth. Discusses the role of the occupational therapy assistant as a colleague and collaborator. Continues to emphasize the importance of life-long learning. Lectures, role-plays, presentations and experiential activities will be used to

achieve learning outcomes. *Prerequisite:* successful completion of undergraduate Occupational Therapy curriculum.

Prerequisite: Admission to Graduate Health Sciences Center Program
1 credit, Lecture

Letter graded (A, A-, B+, etc.).

HAO 575 Professional Transitional Seminar

Discusses issues related to transition of student to entry-level practitioner role. Presents information on licensure, certification exam preparation, NBCOT certification, AOTA specialty examinations, models of supervision, mentoring, job search strategies, marketing skills, malpractice, continuing competency, professional organizations, networking and career goal planning.

Prerequisites: Open to third year Occupational Therapy students.

Prerequisite: Admission to Graduate Health Sciences Center Program
1.5 credits, Seminar

Letter graded (A, A-, B+, etc.).

HAO 580 Special Topics in Occupational Therapy

Offers students the opportunity to explore and expand knowledge and skills in a practice area of specific interest.

Prerequisites: Open to third year Occupational Therapy students.

Prerequisite: Admission to Graduate Health Sciences Center Program
3 credits, Laboratory

Letter graded (A, A-, B+, etc.).

HAO 585 Disability and Occupational Therapy

Introduces a social model of disability and explores the ethical and psychological issues faced by people with disabilities across their lifespan. Presents historical analysis, healthcare discourse, and cultural critique to understand the evolution of health practice, cultural beliefs and social structures influencing the treatments, services, and opportunities available to people with disabilities in the United States and internationally. Offers students a multi-layered understanding of the issues faced by people with disabilities and their families. Includes assigned readings, films, guest speakers, site visits, and one-on-one interactions with people with disabilities.

Prerequisite: Admission to Graduate Health Sciences Center Program
1 credit, Lecture

Letter graded (A, A-, B+, etc.).

HAO 590 Independent Study in Occupational Therapy

Students develop and/or implement their research projects under the mentorship of the course instructor and a faculty advisor who has expertise in their chosen topic. Literature reviews are completed and the project is prepared in a format appropriate for professional publication or presentation.

Prerequisite: Admission to Graduate Health Sciences Center Program
1 credit, Tutorial

Letter graded (A, A-, B+, etc.).

May be repeated 1 times for credit.

HAO 592 Case Studies II

This seminar-style course further develops the student's clinical reasoning skills. Building on experiences from Case Studies I, students are expected to synthesize knowledge gained from basic science and theory/practice courses, along with initial Level I fieldwork experiences to formulate treatment planning on hypothetical cases. Covers the current assessment, treatment, and documentation methods utilized by occupational therapists in a variety of physical disabilities settings. Students have the opportunity to work independently as well as in small groups when reviewing and discussing patient cases that concern areas such as complicated diagnoses, risk factors, the role of occupational therapy within the specific setting, frames of references, treatment techniques/modalities, discharge planning, safety issues, and follow up. Cases are presented in written as well as oral formats.

Prerequisite: Admission to Graduate Health Sciences Center Program
2 credits, Seminar

Letter graded (A, A-, B+, etc.).

HAO 593 Case Studies III

The third in a series of three clinical reasoning seminars, this course will focus on the synthesis of all clinical and academic coursework in formulating a comprehensive plan of care. Greater emphasis on students responding spontaneously to case presentations in class, much as they would be expected to do in the clinical setting.

Prerequisite: Admission to Graduate Health Sciences Center Program
2 credits, Seminar

Letter graded (A, A-, B+, etc.).

HAO 596 Fieldwork Level II A

Fieldwork IIAs an in-depth clinical experience in the delivery of occupational therapy services. According to AOTA guidelines, this fieldwork is designed to promote clinical reasoning and reflective practice; transmit values and beliefs that enable the application of ethics related to the profession; enable the student to communicate and model professionalism as a developmental process and career responsibility; and develop and expand a repertoire of occupational therapy assessments and interventions related to human occupation and performance. This first of three level II fieldwork experiences exposes the student to a variety of clinical conditions in a specific practice area.

Prerequisite: Admission to Graduate Health Sciences Center Program
12 credits, Required but Unsupervised, Clinical

S/F graded.

HAO 597 Fieldwork IIB

This second of three clinical fieldwork experiences provides the occupational therapy student with opportunities to apply the knowledge and skills learned thus far in the curriculum. Students will be assigned to a fieldwork site for 12 weeks on a full time basis in a particular area of practice.

Prerequisite: Admission to Graduate Health Sciences Center Program
12 credits, Required but Unsupervised, Clinical

S/F graded.

Division of Clinical Sciences

Department of Physician Assistant Education

Chair: Paul Lombardo

Vice chair: Peter D. Kuemmel

Medical Director: Gail Cohan

Associate professor: Paul Lombardo

Assistant professors: Robert M. Ansbach, Frank A. Brodzik, Jeanne M. Cavaliere, Donna A. Crapanzano, Marian I. Eskow, Donna Ferrara-McCord, Edward Giarrusso, Dale M. Janson, Lynn M. Keil, Maureen J. Kelly, Peter D. Kuemmel, Valerie A. Kuemmel, Claire Lokitis, Benjamin W. Pace, Randy L. Parr, Diane Ranieri, Donald O. Reinauer, Patricia J. Sondgeroth, Lynn Timko-Swaim

Instructors: Lorraine S. Atkinson, Scott Baker, Denise M. Bolan, Lori B. Brooks, Guy A. Cassara, Rebecca Claudio-Morales, Frederick G. Deutch, Melanie M. Ingram, Stephen E. Lyons, Patricia W. McKeon, Timothy Mirando, Martin Morales, Sara K. Proctor, Bruce L. Rebold, Edward C. Savarese, Garry J. Schwall, Marzya Sdrewski-Thailer, Jeannine R. Smith, Richard N. Thailer, Kimberley Vonderlieth, Silas A. Williams

Program in Physician Assistant Education Leading to the Bachelor of Science Degree

Program director: Paul Lombardo

Medical director: Gail Cohan

The department of physician assistant education offers an upper-division program leading to the Bachelor of Science degree and the school's Certificate of Professional Achievement for Physician Assistants. The program consists of approximately 100 weeks of pre-clinical and clinical instruction presented over a 24-month period. An additional two-week, optional final elective is also available.

The program educates skilled professionals who, with physician supervision, practice medicine in all specialties and settings. Emphasis is placed on preparing graduates to work with primary care physicians and students learn to take medical histories, perform physical examinations, order/perform diagnostic procedures and develop and implement treatment plans. Patient education, counseling, health risk appraisal and management are also important aspects of physician assistant education and practice, as is preparation for responsibilities related to the prescribing of medications. Typical settings in which students and graduates are educated and employed include, but are not limited to, private and group practices, hospitals, managed care settings, nursing homes, rural and urban out-patient clinics, correctional facilities, medical research facilities and health administration.

Physician assistants are well utilized in health care because of the accessible, quality, cost effective care they provide. The physician assistant profession's contribution to providing primary care services to underserved areas and populations is well recognized. In keeping with this commitment, physician assistant education at Stony Brook is heavily directed toward community medicine involvement in the provision of primary care services and graduates are encouraged to work in areas of medical need.

The physician assistant education program is fully accredited by the Commission on Accreditation and Review Commission on Education for the Physician Assistant and the New York State Department of Education. Graduates are eligible to sit for the national certification examination for physician assistants, administered by the National Commission on Certification of Physician Assistants.

Admission Requirements

Candidates for the physician assistant education program must meet the upper-division admission requirements of the School of Health Technology and Management (see page 62 of this Bulletin). The requirements may be fulfilled through previous college studies completed.*

In addition to the general academic requirements for junior status in the school, the department of physician assistant education specifies that fulfillment of the natural science requirement consists of completion of 11 or more credits in the biological sciences, including three credits in microbiology, completion of at least eight credits in chemistry and three credits in mathematics for a total of at least 22 credits in the natural sciences. Biology and chemistry courses must be those offered for science and/or pre-med majors. Preference will be given to applicants whose natural science coursework has been completed within the last seven years. Coursework in sociology and psychology is strongly recommended. Certification in cardiopulmonary resuscitation (CPR) is required. ACLS is preferred.

The department also requires a minimum of one year of experience in direct patient/health related care, either full-time or through equivalent accumulation of 1,000 hours. Preference will be given to those candidates with direct patient care or a

*Formal armed forces or professional school courses may in some cases be approved for credit by the Admissions Committee of the School of Health Technology and Management

broad range of health related experience. This requirement can be fulfilled by paid or volunteer experience as a registered nurse, medic, corpsman, orderly, nurses' aide, medical technician, counselor in a health care setting, etc.

Our program participates in the CASPA (centralized application service for physician assistants). For an application please visit www.caspaonline.org or call (240) 497-1895.

Program Requirements

Physician assistant students must complete the core course requirements of the school. In addition, the following professional courses are required:

Didactic Courses

Course	Title	Credits
HAD 310	Clinical Laboratory	2
HAD 319	Medical Microbiology for Physician Assistants	1
HAP 303	Radiology	2
HAP 306	Human Sexuality for Physician Assistant	1
HAP 308	Psychiatry for Physician Assistants	3
HAP 350	Signs and Symptoms: Clinical Medicine I	2
HAP 351	Signs and Symptoms: Clinical Medicine II	10-16
HAP 352	Signs and Symptoms: Clinical Medicine III	10-16
HAP 353	Signs and Symptoms: Clinical Medicine IV	10-16
HBA461	Regional Human Anatomy	5
HBH 330	Fundamentals of Pharmacology I	2
HBH 331	Fundamentals of Pharmacology II	3
HBP 411	Pathology Seminar	1
HBY 350	Human Physiology	4

Clinical Clerkships

Course	Title	Credits
HAP 470	General Medicine: Clinical Clerkship	5
HAP 471	Obstetrics and Gynecology: Clinical Clerkship	6
HAP 472	General Surgery: Clinical Clerkship	5
HAP 473	Pediatrics: Clinical Clerkship	5
HAP 474	Emergency Medicine: Clinical Clerkship	5
HAP 475	Psychiatry: Clinical Clerkship	4
HAP 476	Medicine Preceptorship: Clinical Clerkship	5
HAP 477	Pediatrics Preceptorship: Clinical Clerkship	5
HAP 479	Geriatrics: Clinical Clerkship	5
HAP 480	Orthopaedics: Clinical Clerkship	4
HAP 481	Final Elective: Clinical Clerkship	2

Special Academic Requirements

In addition to the academic policies of the school, each of the following courses must be passed with a minimum grade of C- before a student is permitted to enter clinical clerkships. Students must achieve a minimum grade of C- and maintain at least a 2.5 cumulative grade point average for all clinical clerkships.

Course	Title	Credits
HAP 303	Radiology	2
HAP 308	Psychiatry for Physician Assistants	3

HBY 350	Human Physiology	4
HBA 461	Regional Human Anatomy	5
HBH 330	Fundamentals of Pharmacology I	2
HBH 331	Fundamentals of Pharmacology II	3

Courses

HAP 303 Radiology

Overview of common diagnostic imaging modalities and their indications, limitations, benefits and potential risks. Presents utilization of radiographic studies in the diagnosis of disease, emphasizing normal findings and abnormalities found in disease processes.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HAP 306 Human Sexuality for Physician Assistants

Provides an overview of human sexuality with an emphasis on issues related to sexual health care. Designed both to raise the student's comfort level in discussing sexual matters with patients and to build the skills necessary to carry out this task. Offers students an opportunity to assess how their values, attitudes and beliefs may influence the quality of their delivery of sexual health care to diverse patient populations.

Prerequisite: Admission to Undergraduate Health Sciences Center program
1 credit, Lecture

HAP 308 Psychiatry for Physician Assistants

Introduces psychiatry and an approach to general evaluation of patients with psychological problems. Encourages students to develop an awareness of social patterns that have an impact on mental functioning.

Prerequisite: Admission to Undergraduate Health Sciences Center program
3 credits, Lecture

HAP 350 Signs and Symptoms: Clinical Medicine I

Preparation for clinical rotations through a systems and problem-oriented approach dealing with the patient in a clinical context. Emphasizes physical examination, evaluation, procedures, and problem solving.

Prerequisite: Admission to Undergraduate Health Sciences Center program
2 credits, Lecture

HAP 351 Signs and Symptoms: Clinical Medicine II

Preparation for clinical rotations through a systems and problem-oriented approach dealing with the patient in a clinical context. Emphasizes physical examination, evaluation, procedures, and problem solving.

Prerequisite: Grade of B- or better in HAP350.

Prerequisite: Admission to Undergraduate Health Sciences Center program
10 - 16 credits, Lecture

HAP 352 Signs and Symptoms: Clinical Medicine III

Preparation for clinical rotations through a systems and problem-oriented approach dealing with the patient in a clinical context. Emphasizes physical examination, evaluation, procedures, and problem solving.

Prerequisite: Grade of B- or better in HAP351.

Prerequisite: Admission to Undergraduate Health Sciences Center program
10 - 16 credits, Lecture

HAP 353 Signs and Symptoms: Clinical Medicine IV

Preparation for clinical rotations through a systems and problem-oriented approach dealing with the patient in a clinical context. Emphasizes physical examination, evaluation, procedures, and problem solving.

Prerequisites: Grade of B- or better in HAP352.

Prerequisite: Admission to Undergraduate Health Sciences Center program
10 - 16 credits, Lecture

HAP 470 General Medicine: Clinical Clerkship

Applies principles of general medicine learned in the preclinical curriculum to hospital-based practice. Supervised, ongoing patient contact exposes the student to a variety of acute and chronic medical conditions. Emphasizes data gathering, differential diagnosis, patient

management, diagnostic and therapeutic skills, and follow-up care.
Prerequisite: Admission to Undergraduate Health Sciences Center program
5 credits, Required but Unsupervised, Clinical

HAP 471 Obstetrics and Gynecology: Clinical Clerkship
Applies principles of obstetrics and gynecology learned in preclinical curriculum to hospital-based practice. Emphasis as in HAP 470, including pre- and post-partum care, pelvic examinations, contraception, and normal labor and delivery.
Prerequisite: Admission to Undergraduate Health Sciences Center program 6 credits, Required but Unsupervised, Clinical

HAP 472 General Surgery: Clinical Clerkship
Applies basic clinical knowledge and skills learned in preclinical curriculum to patients presenting with common surgical or urological problems. Supervised exposure to both in-patient and ambulatory care settings with emphasis on data gathering, differential diagnosis, patient management, and communications skills. Stresses pre- and postoperative care and appropriate triage and referral skills based on understanding of surgical diseases and procedures.
Prerequisite: Admission to Undergraduate Health Sciences Center program 5 credits, Required but Unsupervised, Clinical

HAP 473 Pediatrics: Clinical Clerkship
Applies principles of pediatrics learned in preclinical curriculum to hospital and ambulatory based practice. Emphasis as in HAP 470, including normal growth and development, newborn evaluation, and evaluation of well and sick children.
Prerequisite: Admission to Undergraduate Health Sciences Center program 5 credits, Required but Unsupervised, Clinical

HAP 474 Emergency Medicine: Clinical Clerkship
Provides supervised exposure to acute primary care problems of the emergency department patient. Emphasizes directed history and physical examination, triage and management of acute and life threatening illnesses and injuries.
Prerequisite: Admission to Undergraduate Health Sciences Center program 5 credits, Required but Unsupervised, Clinical

HAP 475 Psychiatry: Clinical Clerkship
Applies principles of psychiatry learned in HAP308 to hospital-based, inpatient, out-patient care setting. Emphasizes recognition and triage of common psychiatric problems, performance of the mental status examination, patient interaction skills, and patient follow-up.
Prerequisite: Admission to Undergraduate Health Sciences Center program 4 credits, Required but Unsupervised, Clinical

HAP 476 Medicine Preceptorship: Clinical Clerkship
Applies principles of general medicine learned in the preclinical curriculum and HAP470 to an out-patient medicine practice. Emphasis as in HAP470.
Prerequisite: Admission to Undergraduate Health Sciences Center program 5 credits, Required but Unsupervised, Clinical

HAP 477 Pediatrics Preceptorship: Clinical Clerkship
Applies principles of pediatrics learned in the preclinical curriculum and HAP473 to an out-patient pediatric practice. Emphasis as in HAP 470.
Prerequisite: Admission to Undergraduate Health Sciences Center program 5 credits, Required but Unsupervised, Clinical

HAP 479 Geriatrics: Clinical Clerkship
Focuses on evaluation of management of medical and psychosocial aspects of aging in a setting that offers rehabilitation, chronic care, day care, home care, and ambulatory clinics. Emphasizes interdisciplinary approach to geriatric care and the role of the physician assistant.
Prerequisite: Admission to Undergraduate Health Sciences Center program 5 credits, Required but Unsupervised, Clinical

HAP 480 Orthopaedics: Clinical Clerkship
Provides an opportunity to refine skills acquired in HAP 472 emphasizing evaluation and management of common orthopaedic problems,

data gathering, splinting, immobilization, and wound evaluation.
Prerequisite: Admission to Undergraduate Health Sciences Center program 4 credits, Required but Unsupervised, Clinical

HAP 481 Final Elective: Clinical Clerkship
An optional final clinical experience in an area of medicine selected by the student. Provides an opportunity to apply, integrate, and reaffirm skills including data gathering, patient management and interaction, differential diagnosis, and diagnostic and therapeutic procedures.
Prerequisite: All physician assistant courses.
Prerequisite: Admission to Undergraduate Health Sciences Center program 2 credits, Required but Unsupervised, Clinical

Emergency Medical Technician-Paramedic Training Program Leading to a Certificate

Program director: Paul A. Werfel

Medical director: Scott Johnson

Assistant professor: Paul A. Werfel

Lecturers: Debra A. Felsher-Johnson, Peter C. Flanagan Jr., Jay L. Gardiner, Jason S. Hellman, Theodore J. LaMonica, Robert B. Marks, Henry Messana, William J. O'Connor, Michael G. Rubin, Lawrence M. Zaccarese

The EMT-paramedic training program is a non-degree, non-credit program designed to train effective and compassionate paramedics in accordance with the 1998 standards established by the United States Department of Transportation. Upon successful completion of the program all students will be eligible to take examinations for certification as:

- New York State AEMT-4 Paramedic
- Nationally Registered EMT-Paramedic
- New York City MAC-EMS Paramedic

Certification in Advanced Cardiac/Pediatric Life Support and Basic Life Support is also part of the curriculum. The program, offered every year, consists of 556 hours of didactic training and 636 hours of clinical practicum in the emergency department, paramedic ambulance, CCU, ICU and other applicable venues.

Admission Requirements

Applicants must be 18 years of age or older, have a high school diploma, be a currently certified New York State EMT or AEMT and have EMS experience at or above the EMT level.

Admission is based on a standardized written test of math and English skills, a written test of medical knowledge at the basic EMT level and a personal interview.

Continuing Professional Education

The School of Health Technology and Management recognizes its responsibility to provide continuing education and training to health care professionals and the community at large. To meet this responsibility the school offers a variety of courses and workshops.

The school provides faculty development, professional, executive, corporate, international and community health education. An important focus of the continuing professional education effort is aimed at calling upon experts from outside the University to provide a range of approaches and views to health related issues. Formats include conferences, workshops and specialized training.

