Course Listing

HAD

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. This course is not eligible for the G/P/NC option. Open to west campus students. 1 credit

HAD 302 Fundamental Concepts in Forensic Science
Introduces specialties within the broad definition of forensic science including criminalistics, crime scene analysis, physical evidence, instrumentation, drug analysis, and biological sciences. Explores up-to-date technologies utilized in crime laboratories to apprehend criminals and to exonerate the innocent. Includes DNA testing, the DNA national database (CODIS), finger print data bank (AFIS), the fired bullet data bank (IBIS), trace evidence techniques, and high-tech advances in crime scene investigation. Not to be taken for credit if completed HAD 304. This course is not eligible for the G/P/NC option. Open to west campus students. 3 credits

HAD 304 Introd to Forensic Science
Introduces the student to forensic science. Describes the interesting and diverse disciplines that comprise the field. Addresses the value of all physical evidence to Criminal and civil investigations. Emphasizes forensic biology and chemistry, and the role of the forensic laboratory in the process of criminal investigation. This course is not eligible for the G/P/NC option. Open to west campus students. 1 credit

HAD 313 Clinical Biochemistry I
Examines the physiological, biochemical and mathematical relationships involved in the establishment and utilization of laboratory procedures in the clinical chemistry laboratory. Includes, principles of routine clinical chemistry analytical methods of analysis and the clinical significance of routine clinical chemistry analytes. Prerequisite: Admission to Undergraduate CLS Program. 3.5 credits

HAD 315 Hematology I
A comprehensive study of the human hematopoietic system and its relationship to other organ systems. Includes morphological identification and biochemical relationships of erythropoiesis and leukopoiesis in healthy vs. disease states. Includes principles and applications of current methods in hematologic analysis, techniques and technology. Prerequisite: Admission to Undergraduate CLS Program. 4 credits

HAD 316 General Microbiology
Presents the biology of eukaryotic and prokaryotic microorganisms with special consideration to the microbial form, structure, function, physiology, metabolism, growth and genetics of bacteria, parasites, fungus and viruses. Introduces the world of microbiology with a human perspective providing a solid foundation in health related aspect of microbiology. Prerequisite: BIO 202, CHEM 132 Open to Non HSC students. This course is not eligible for the G/P/NC option. Open to west campus students. 3 credits

HAD 324 Pathology
Offers a comprehensive overview of human pathology and emphasizes the mechanisms of disease and diagnostic medicine. Provides two major categories: Part I introduces general pathology including the study of basic pathology processes that underlie all disease such as cellular pathology, inflammation, infection, immunology and neoplasia. Part II examines the pathology of major organ systems, and review of diagnostic tools. Prerequisite: Admission to Undergraduate CLS Program (HHCZB students only) 3 credits

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 CLS Program 1.5 credits

HAD 331 Introduction to Biochemistry for CLS
Introduces biochemistry including all aspects of metabolism and the synthesis, structure and function of DNA, RNA and protein. Emphasizes the medical and clinical significance of these aspects of biochemistry. Prerequisite: Admission to Undergraduate CLS Program 3 credits

HAD 335 Medical Ethics in Health Care for CLS
Introduces health care professional students in clinical laboratory sciences to basic concepts and challenges in medical ethics. Provides overview of the ethics of health care in a rapidly changing society. Approaches ethical dilemmas using theoretical frameworks and decision making processes. Explores ethical issues surrounding health care changes and public health policy. Includes distribution of resources and rationing of services. Includes varied topics such as euthanasia, reproduction, transplants, cloning and genetics from ethical perspectives. Reviews classic cases in health care ethics and their impact on health policy. Discusses
introduction, identification and antimicrobial susceptibility of microorganisms commonly encountered. Includes morphologic, biochemical and serologic clinical laboratory techniques using microorganisms involved in human disease. Prerequisite: Admission to Undergraduate CLS Program.

4 credits

HAD 381 Clinical and Medical Microbiology II

Covers the classification, identification, and pathology of disease-causing bacteria. Emphasizes the related theory and performance of microbiological procedures such as collection of specimens, staining techniques, culturing methods, identification of commonly cultured bacteria, and antibiotic susceptibility testing. Prerequisites: Admission to Undergraduate CLS Program; HAD 380

4 credits

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 to the program director for approval prior to registration for this course. Prerequisite: Admission to Undergraduate CLS Program

1-6 credits

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: Admission to Undergraduate CLS Program; HAD 425, HAD 380 and HAD 381.

6 credits

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. Prerequisites: Admission to Undergraduate CLS Program; HAD 315.

3 credits

HAD 399 Clinical Continuation

This course is for clinical laboratory sciences students continuing with clinical. Prerequisite: Admission to Undergraduate CLS Program; Department Consent Required.

0 credit, S/F graded

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. Prerequisites: Admission to Undergraduate CLS Program; Department Consent Required.

3 credits
HAD 406 Introduction to Clinical Cytogenetics

Introduces the student to cytogenetic principles utilized in the clinical laboratory. The lecture course is designed to introduce the theories, concepts and techniques applicable to the practice of clinical cytogenetics. Topics include morphology and behavior of human chromosomes, cytogenetic nomenclature, cytogenetic syndromes and cancer cytogenetics. Laboratory techniques such as fluorescence in situ hybridization (FISH) and various banding techniques are discussed. Prerequisites: Admission to Undergraduate CLS Program; Department Consent Required

1 credit

HAD 411 Clinical Biochemistry II

A continuation of HAD 313. Prerequisites: Admission to Undergraduate CLS Program; HAD 313

2.5 credits

HAD 412 Clinical Biochemistry III

Covers the clinical significance and analytical methods for special biochemistry analytes including hormones and metabolites, amino acids, trace elements and vitamins, porphyrins, etc. Prerequisites: Admission to Undergraduate CLS Program; HAD 313 and HAD 411

2 credits

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. Prerequisites: Admission to Undergraduate CLS Program; HAD 315 and HAD 398

4 credits

HAD 415 Applied Immunology

Introduces the applications of clinical immunology in the diagnosis and prognosis of human diseases and the fundamental working knowledge of basic principles of the human immune system function. Prerequisite: CLS students only.

3 credits

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: Admission to Undergraduate CLS Program; HAD 315

3.5 credits

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. Prerequisite: Admission to Undergraduate CLS Program.

3 credits

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 CLS Program.

1.5 credits

HAD 440 Forensic Sciences Clinical

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. Prerequisites: Admission to Undergraduate CLS Program; HAD 304; Instructor Consent Required

3-5 credits

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: Admission to Undergraduate CLS Program; HAD 331 and HAD 432; Department Consent Required

1.5 credits

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 CLS Program

1 credit

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: Admission to Undergraduate CLS Program; HAD 363; Additional Prerequisite Track Courses Required; Instructor Consent Required.

1 credit

HAD 490 Independent Study/ Clinical Laboratory Sciences

Proposals for special projects in clinical laboratory sciences involving readings, research, and laboratory problems must be submitted to the program director for approval prior to
registration for this course. Prerequisites: Admission to Undergraduate CLS Program; Instructor Consent Required.
1-6 credits

HAD 492 Research Tutorial
Provides students with an opportunity to apply both skills and knowledge acquired during their studies to formulate and design a research project. Students will then, under faculty mentorship, execute their project using appropriate research methods. They will also be expected to write and present a scientific paper on the completed research. Prerequisites: Admission to Undergraduate CLS Program.
2 credits

HAD 493 Advanced Seminar in Clinical Laboratory Sciences
Prepares students for transition to entry-level clinical laboratory scientist employment. Exposes students to information on NY State licensure, and National Board of Certification (BOC) examination preparation, job search strategies including resume writing, and interviewing preparation. National BOC and other published examination review sources will be used as framework for students to practice and develop experience with the dynamics of analysis and synthesis of laboratory produced data from multiple clinical laboratory areas (i.e. chemistry, immunohematology, microbiology, etc.) and professional organizations. Case study methods will be used for didactic content regarding teaching techniques. Students will create and present a case study unit. Prerequisites: Admission to Undergraduate CLS Program; HAD 313, 315, 380, 381, 411, 412, 414, 416, and 425.
2 credits

HAD 494 Clinical Chemistry Practicum
Full-time instruction and practice of laboratory procedures in clinical chemistry and automation in an approved hospital laboratory. Prerequisites: Admission to Undergraduate CLS Program; HAD 313 and HAD 411
4 credits

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: Admission to Undergraduate CLS Program; HBP 401; Instructor Consent Required
1 credit

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: Admission to Undergraduate CLS Program; HAD 416
3 credits

HAD 498 Coagulation and Urinalysis Practicum
Full-time instruction and practice of laboratory procedures in coagulation and urinalysis in an approved hospital laboratory. Prerequisites: Admission to Undergraduate CLS Program; HAD 414
1 credit

HAD 506 Clinical Cytogenetics Internship
Introduces the students to clinical cytogenetic techniques and standard operating procedures utilized in a clinical cytogenetic laboratory. Permission of department is required. Prerequisites: Admission to Undergraduate CLS Program; HAD 406; Department Consent Required
3-5 credits, Letter graded (A, A-, B+, etc.)

HAD 590 Independent Study/ Clinical Laboratory Sciences
Proposals for special projects in clinical laboratory sciences must be submitted to the program director for approval prior to registration. Prerequisites: Admission to Undergraduate CLS Program; Department Consent Required
1-6 credits, Letter graded (A, A-, B+, etc.)

HAL

HAL 205 Introduction to Athletic Training
Introduction to the health care profession of Athletic Training. Explores the global historical development of the profession and the concept of the sports medicine team, as well as medical terminology. Students are required to complete a 50 hour clinical observation. Open to west campus students with permission of department. G/P/NC grading option is not available.
3 credits

HAL 210 Emergency Care of Athletic Injuries
Recognition and management of medical emergencies with emphasis on those conditions that are most commonly suffered by athletes. Successful completion of the course leads to Health Care Provider Cardio-Pulmonary Resuscitation(CPR), and Standard First Aid certification by the Emergency Care and Safety Institute. Open to west campus students. This course has an associated fee. Please see www.stonybrook.edu/coursefees for more information. Open to west campus students with permission of department. G/P/NC grading option is not available.
3 credits

HAL 300 Kinesiology
The mechanical aspects of human motion and the structure and function of these motions in physically active individuals with or without pathological involvement. The student learns basic qualitative and quantitative clinical techniques used in identifying pathological movement. Open to west campus students with permission of department. G/P/NC grading option is not available.
4 credits
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>HAL 305</td>
<td>Prevention and Care of Athletic Injuries</td>
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<td>A course addressing the areas of knowledge, skills, and values needed by an entry-level athletic trainer needs to identify injury and illness risk factors encountered by athletes and others involved in physical activity and to plan and implement a risk management and prevention program. Prerequisite: Admission to Undergraduate Athletic Training Program 3 credits</td>
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<tr>
<td>HAL 306</td>
<td>Prophylactic Taping, Bracing and Equipment Fitting</td>
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<td>The student will demonstrate the ability to select and apply preventative and protective taping, wrapping, splinting, bracing, and rehabilitative devices in order to prevent further injury. Additionally, the student will identify, select and fit general protective and sports specific protective athletic equipment. Prerequisite: Admission to Undergraduate Athletic Training Program 2 credits</td>
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<tr>
<td>HAL 320</td>
<td>Clinical Evaluation and Diagnosis of Lumbar Spine/Lower Extremity</td>
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<td>Focuses on principles of orthopedic examination and assessment. Emphasizes the components of the comprehensive orthopedic clinical evaluation and diagnosis, including history, inspection, palpation, functional testing, and special evaluative techniques of the lumbar spine and lower extremity. Prerequisite: Admission to Undergraduate Athletic Training Program 3 credits</td>
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<tr>
<td>HAL 321</td>
<td>Clinical Evaluation and Diagnosis Head/Cervical Spine/ Upper Extremity</td>
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<td>This course focuses on the principles of orthopedic examination and assessment. Emphasis will be placed on the components of the comprehensive orthopedic clinical evaluation and diagnosis including: history, inspection, palpation, functional testing, and special evaluation techniques of the head, cervical spine and upper extremity. Prerequisite: Admission to Undergraduate Athletic Training Program 3 credits</td>
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<tr>
<td>HAL 345</td>
<td>Therapeutic Modalities</td>
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<td>Knowledge, skills, and values needed by the entry-level athletic trainer to plan, implement, document, and evaluate the efficacy of therapeutic modalities in the treatment of injuries and illnesses of athletes and others involved in physical activity. Prerequisite: Admission to Undergraduate Athletic Training Program 4 credits</td>
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<tr>
<td>HAL 351</td>
<td>Research Methods and Biostatistics</td>
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<td>This course introduces the student to research in athletic training. The student learns about the research process, reads, comprehends and appreciates journal articles and begins writing a research proposal on a topic related to athletic training. Prerequisite: Admission to Undergraduate Athletic Training Program 3 credits</td>
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<tr>
<td>HAL 355</td>
<td>General Medical Conditions and Disabilities in the Physically Active</td>
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<td>Presents the pathophysiology and management of common diseases and other medical disorders or disabilities as they relate to athletes and the physically active. Prerequisite: Admission to Undergraduate Athletic Training Program 4 credits</td>
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<tr>
<td>HAL 360</td>
<td>Rehabilitation of Athletic Injuries</td>
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<td>Presents the principles and objectives inherent in rehabilitating athletic injuries. Discusses orthopedic rehabilitation fundamentals and specific conditioning and re-conditioning techniques. Exposes the student to different types of exercise and equipment used in rehabilitation. Provides laboratory experience in applying various rehabilitation techniques. Prerequisite: Admission to Undergraduate Athletic Training Program 4 credits</td>
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<tr>
<td>HAL 370</td>
<td>Exercise Physiology</td>
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<td>Offers the student an understanding and appreciation of the metabolic and physiological adaptations of exercise. In-depth presentation of muscle, cardiac, and pulmonary physiology related to the healthy human at various states: rest, acute exercise, long term exercise under normal and high stress environmental conditions. Includes presentation of food sources, production of energy, and energy systems. Includes information on how training enhances strength, anaerobic power, aerobic power and physique while slowing the effects of aging and aiding in disease prevention. Prerequisite: Admission to Undergraduate Athletic Training Program 4 credits</td>
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<tr>
<td>HAL 375</td>
<td>Supplement Use for Sport Performance</td>
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<td>Course introduces the use of supplements in sport from a sports medicine and athletic training perspective. Discusses the advantages and disadvantages of using dietary supplements. Presents scientific research on recommended dosage and potential side effects. Both competitive and recreational athletes' needs and concerns are addressed. Upon completion of course, students should be able to evaluate and make recommendations about dietary supplements. Open to west campus students. G/P/NC grading option is not available. Prerequisite: Completion of Any Undergraduate Biology Course or Equivalent 2 credits</td>
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<tr>
<td>HAL 376</td>
<td>Introduction to Nutrition</td>
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|            | Introduces students to fundamentals of nutritional science and food systems. Reviews dietary sources and functions of macro and micronutrients and the basic of their metabolism and impact on energy balance and common health problems. Explores types of food systems, including production, transformation, distribution, access and consumption and
Explores the impact on the environment and human health. Discusses contemporary issues and controversies such as eating disorders, diet trends and sports nutrition. Open to west campus students. G/P/NC grading option is not available.
2 credits

HAL 435 Organization and Administration in Athletic Training
Examines various issues, policies, and procedures involved with the ethical administration of athletic training in a managed-care model, including US federal health care laws, legal liability issues, personnel management, facility organization and design, equipment maintenance, budgeting, record keeping, health care services, counseling, and public relations. Prerequisite: Admission to Undergraduate Athletic Training Program
7 credits

HAL 450 Senior Research Seminar in Athletic Training
Culmination of athletic training curriculum. Students complete and present their research study. Prerequisite: Admission to Undergraduate Athletic Training Program
3 credits

HAL 460 BOC Exam Primer
This course is designed to provide students with information regarding study techniques, test taking strategies, and application procedures for the Board of Certification (BOC) exam. Prerequisite: Admission to Undergraduate Athletic Training Program
1 credit, S/F graded

HAL 481 Athletic Training Practicum I
Assignments in clinical settings related to the students' area of study in prevention and care of athletic injuries, prophylactic taping, bracing, equipment fitting. Students are given the opportunity to observe and integrate skills under the supervision of a Preceptor. Students participate in a laboratory setting that re-evaluates students' skills through patient interaction, psychomotor and scenario simulations. Prerequisite: Admission to Undergraduate Athletic Training Program
3-6 credits

HAL 482 Athletic Training Practicum II
Assignments in clinical settings related to the students' area of study in clinical evaluation and diagnosis. Students are given the opportunity to observe and integrate skills under the supervision of a Preceptor. Students also participate in a laboratory setting that re-evaluates students' skills through psychomotor and scenario simulations. Provides grand rounds forum. Prerequisite: Admission to Undergraduate Athletic Training Program
7 credits

HAL 483 Athletic Training Practicum III
Assignments in clinical settings related to the students' area of study in clinical evaluation and diagnosis and therapeutic modalities. Students are given the opportunity to observe and integrate skills under the supervision of a Preceptor.
Students participate in a laboratory setting that re-evaluates students' skills through psychomotor and scenario simulations. Provides grand rounds forum. Prerequisite: Admission to Undergraduate Athletic Training Program
7 credits

HAL 484 Athletic Training Practicum IV
Assignments in clinical settings related to the students' area of study in prevention and care of athletic injuries, prophylactic taping, bracing, equipment fitting, clinical evaluation and diagnosis. Students are given the opportunity to observe and integrate skills under the supervision of a Preceptor. Prerequisite: Admission to Undergraduate Athletic Training Program
3-6 credits

HAL 485 Athletic Training Practicum V
This course offers assignments in clinical settings related to the students, area of study (rehabilitation of athletic injuries). This course will give the student the opportunity to observe and integrate skills under the supervision of a Preceptor. The student will also participate in a laboratory setting that will re-evaluate the students, previous skills through psychomotor and scenario simulations. This meeting time will also act as a venue to discuss current situations arising at the various sites that will provide for a grand rounds forum. Prerequisite: Admission to Undergraduate Athletic Training Program
7 credits

HAL 486 Athletic Training Practicum VI
This course offers assignments in clinical settings related to the students, area of study (general medical conditions and disabilities). This course will give the student the opportunity to observe and integrate skills under the supervision of a Preceptor including rotations through Physicians practices. The student will also participate in a laboratory setting that will re-evaluate the students' previous skills through psychomotor and scenario simulations. This meeting time will also act as a venue to discuss current situations arising at the various sites that will provide for a grand rounds forum. Prerequisite: Admission to Undergraduate Athletic Training Program
7 credits

HAL 499 Athletic Training Teaching Practicum
Advanced students assist faculty members teaching athletic training classes. In addition to working as tutors during instructional periods, students have regular conferences with a faculty supervisor. Students may not serve as teaching assistants in the same course twice. Prerequisite: Admission to Undergraduate Athletic Training Program. Instructor Consent Required
2 credits, S/F graded

HAL 510 Strength and Conditioning for the Healthcare Practitioner
Designed to provide a comprehensive overview of strength and conditioning for the future or practicing healthcare practitioner. Emphasizes exercise sciences (including
anatomy, exercise physiology, and biomechanics), nutrition, exercise technique, program design, organization, administration, testing, and evaluation. Prepares students for nationally-accredited Certified Strength and Conditioning Specialist (CSCS) certification exam. Open to non SHTM students. Prerequisite: ANP 300, HAN 200 or Equivalent Anatomy Course; Instructor Consent Required. 3 credits, Letter graded (A, A-, B+, etc.)

**HAN**

**HAN 200 Human Anatomy and Physiology for Health Science I**

This is the first course in a two-part sequence that introduces the study of human anatomy and physiology at cell, tissue, and organ system levels of organization, with emphasis on understanding disease processes associated with systems. Laboratory sessions include virtual on-line exercises designed to illustrate principles learned and computer simulations in physiology and anatomy dissection. G/P/NC grade option is not available. Open to non-HSC students. Prerequisite: one natural science course 4 credits

**HAN 202 Human Anatomy and Physiology for Health Science II**

This is the second course in a two-part sequence that continues the study of human anatomy and physiology. Topics include the endocrine system, blood composition, the cardiovascular system, the lymphatic system, the immune system, the respiratory system, the digestive system, nutrition, the urinary system, the reproductive system, fluid, electrolyte, acid-base balance and heredity. Laboratory sessions entail virtual online exercises designed to illustrate principles learned and computer simulations in physiology and anatomy dissection. G/P/NC grade option is not available. Open to non-HSC students. Prerequisite: HAN 200 4 credits

**HAN 251 Research Methods in Health Science**

Provides a foundation in quantitative, qualitative and mixed methods research design and methods. Emphasizes the relationship between literature review and the research process and the elements of a research proposal. Applies research designs and methods to case study research projects. Requires on-line CITI training in the protection of human subjects. G/P/NC grade option is not available. Open to non-HSC students. 3 credits

**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 health care organizations. Explores issues regarding health care insurance, the uninsured and underserved, managed care and changes in the health care 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. Prerequisite: Advancement to Health Science Senior Year Curriculum - HANBS 3 credits

**HAN 312 Human Anatomy, Health and Medical Language**

Develops a deeper knowledge of human anatomy and a working medical vocabulary the applies to clinical scenarios. Builds on a foundation of anatomy and physiology. Emphasizes the interrelationships among human anatomy, body systems, pathophysiology and clinical medicine. Introduces the medical professionals and the technology utilized to diagnose and treat patients. G/P/NC grade option is not available. Open to non-HSC students. Prerequisite: HAN 200 or ANP 300. 3 credits

**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. Prerequisite: Advancement to Health Science Senior Year Curriculum - HANBS 3 credits

**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. Prerequisite: Advancement to Health Science Senior Year Curriculum - HANBS 3 credits

**HAN 364 Issues in Health Care Informatics**

Acquaints students with the use and application of personal computer 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. Prerequisite: Advancement to Health Science Senior Year Curriculum - HANBS 3 credits

**HAN 383 Scholarly Writing in Health Science**

This course is designed to challenge the undergraduate student to improve their skills in scholarly writing and professional communications through a variety of written and verbal formats in a logical, straightforward style. Students
will be shown strategies for writing with purpose, supporting detail, and organization. Students will be required to write for a variety of audiences and will conduct a limited literature review, design a research proposal, and create an evidence-based program to be presented to the class. Prerequisite:

**HAN 395**

Advancement to Health Science Senior Year Curriculum - HANBS

3 credits

### Radiation Physics in Medicine

Provides an introduction to radiological and radiation oncology physics for students interested in a career in either medical imaging or radiation therapy/oncology. Presents elements of mathematics and general physics relevant to the radiological sciences. Topics include production of radiation, radioactivity, interaction of radiations with matter, radiation detection, characteristics of high energy medical LINAC radiation, absorbed dose calculation and measurement, radiography, radionuclide imaging, imaging with ultrasound, imaging with magnetic resonance, and basic medical radiation safety. Prerequisite: Advancement to Health Science Senior Year Curriculum - HANBS

4 credits

### Radiobiology and Health Physics

Presents an overview of the biological effects of radiation by examining the interaction of radiation with matter, macromolecules, cells, tissue and the whole body. Studies the clinical impact of responses to radiation. Introduces students to radiation safety through topics such as biologic consequences of irradiation, regulatory limitation of exposure, methods for exposure minimization, and radiation monitoring. Restricted to students approved for appropriate senior year track in the Health Science major. Prerequisite: HAN 395

3 credits

### Radiographic Anatomy and Pathology

Provides basic radiographic anatomy from both the projection and cross sectional point of view. Introduces to basic disease processes, including the nature and causes of disease and injury. Examines these processes on medical images acquired through radiography, computed tomography, angiography, magnetic resonance, scintigraphy, emission computed tomography and ultrasonography. Restricted to students approved for appropriate senior year track in the Health Science major. Prerequisite: HAN 395

3 credits

### Radiology Instrumentation

Expands imaging physics into the area of Radiologic Technology. Studies the physical basis, construction, operation, and quality control of radiographic, fluoroscopic, computed radiographic, direct radiographic, digital subtraction, and computed tomography systems. Restricted to students approved for appropriate senior year track in the Health Science major. Prerequisite: HAN 395

3 credits

### Radiographic Technique

Focuses on production of radiographic image. Includes rationale for selection of technical factors, issues of image resolution and contrast, image receptor technology; film sensitometry; image intensification; film processing; grids; automatic exposure control; portable/surgical procedures; and basic contrast agent pharmacology, and administration directly related to the production of radiographic images. Presents an overview of the special modalities of computed radiography (CR), direct radiography (DR), fluoroscopy, digital fluoroscopy, digital subtraction angiography (DSA), computed tomography (CT), and picture archive communication systems (PACS). Special emphasis is placed on reducing patient exposure to radiation. Restricted to students approved for appropriate senior year track in the Health Science major. Prerequisite: HAN 395

3 credits

### Radiologic Procedures and Positioning I

Examines routine clinical radiographic positioning of the upper and lower extremities, shoulder, spine, chest, pelvis, skull, abdomen, and digestive and urinary systems. Includes portable studies, operating room applications, angiography and advanced imaging techniques. Restricted to students approved for appropriate senior year track in the Health Science major. Prerequisite: HAN 395

6 credits

### Basic CPT Coding

Provides comprehensive introduction to the purpose and basic applications of the Healthcare Common Procedure Coding Set (HCPCS), which includes Current Procedural Terminology (CPT-4). Topics include coding conventions; formats and instructional notations; definitions of the classification system; and HCPCS/CPT nomenclature. Students will also apply basic guidelines from medical, surgical, evaluation/management, and diagnostic services to identify procedures and services which would be appropriate to code in various healthcare settings. Restricted to students approved for appropriate senior year track in the Health Science major. Prerequisites: HAN 200, HAN 202, HAN 312 & HAN 424.

3 credits

### ICD-10-CM for Coders

Focuses on the ICD-10-CM classification systems. Introduces the student to the professional standards for coding and reporting of diagnostic inpatient and outpatient services. Coding characteristics, conventions, and guidelines will be applied in identifying and accurately assigning codes to diseases and conditions. Health records, manual and computerized coding methods, and coding references will be utilized in the coding process. Restricted to students approved for appropriate senior year track in the Health Science major. Prerequisites: HAN 200, HAN 202, HAN 312 & HAN 424.

3 credits

### Special Issues in Emergency Care and Resuscitation

Explores issues in special patient populations and areas in emergency care. Covers pediatric emergencies, obstetric emergencies, neonatology, and geriatric emergencies.
Restricted to students approved for appropriate senior year track in the Health Science major.

3 credits

HAN 417 Cardiac Emergencies
Exposes students to concepts and issues critical to assessment and care of patients presenting with cardiac emergencies. Covers cardiovascular pathophysiology; cardiac patient assessment and management; cardiac electrophysiology; cardiopulmonary resuscitation; and advanced cardiac life support. Restricted to students approved for appropriate senior year track in the Health Science major.

3 credits

HAN 420 ICD-10-PCS for Coders
Focuses on the ICD-10-PCS classification system. Introduces professional standards for coding and reporting of inpatient procedure services. Coding characteristics, conventions and guidelines will be applied in identifying and accurately assigning codes to procedures. Health records, manual and computerized coding methods, and coding references will be utilized in the coding process. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisites: HAN 200, HAN 202, HAN 312 & HAN 424.

3 credits

HAN 421 Advanced CPT Coding
Provides comprehensive advanced coding for the purpose of application of the Healthcare Common Procedure Coding Set (HCPCS), which includes Current Procedural Terminology (CPT-4). Topics include advanced coding conventions; formats and instructional notations; application of the complex areas of the classification system; and HCPCS/CPT nomenclature. Students will also apply advanced coding guidelines from medical, surgical, evaluation/management, and diagnostic services to identify complex procedures and services appropriate to code in various healthcare settings. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisites: HAN 200, HAN 202, HAN 312 & HAN 424.

3 credits

HAN 422 Healthcare Reimbursement
Introduces the basics of healthcare reimbursement. Includes commercial, managed care and federal insurance plans and how reimbursement systems affect providers, payers and consumers. Emphasizes the prospective payment system, uniform hospital discharge data set, and utilizing inpatient coding knowledge to understand payment methodologies in acute care settings. Incorporates current reimbursement and payment issues mandated by the affordable care act, including accountable care organizations, value-based purchasing and recent PPS rules and regulations. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisites: HAN 200, HAN 202, HAN 312 and HAN 424.

3 credits

HAN 423 Coding Practicum
This 45 hour practicum capstone experience will require students to apply knowledge and skills acquired during the spring concentration's course work. The student will code actual medical records including physician's billing, facility emergency department, facility ambulatory surgery, and facility inpatient. The student will also shadow the Clinical Documentation Improvement staff to fully understand the physician query process and how it interacts with coding.

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

Prerequisites: HAN 409, HAN 410, HAN 420, HAN 421, and HAN 422.

3 credits

HAN 424 Pathophysiology for Healthcare Professionals
Provides broad but significant immersion in pathophysiology to develop an understanding of common conditions treated in the inpatient and ambulatory settings. Emphasizes a systems based approach to disease states. Highlights the pathophysiology, clinical presentation, diagnostic evaluation, and pharmacologic treatment and monitoring of the common diseases within each body system that coders encounter in the medical record.

Prerequisite: Advancement to Health Sciences Senior Year Curriculum - HANBS.

3 credits

HAN 426 Instrumentation for Nuclear Medicine Technology
Expands on HAN 395, specifically in the area of Nuclear Medicine Technology. Examines the physical basis, construction, operation and quality control of radiation detection, pulse height analysis, planar imaging, Single Photon Emission Tomography (SPECT) imaging and Positron Emission Tomography (PET) imaging devices. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: HAN 395

3 credits

HAN 427 Nuclear Medicine Procedures
Covers principles, methods and instrumentation used in Nuclear Medicine imaging. Examines the preparation and performance of planar, Single Photon Emission Tomography (SPECT) and Positron Emission Tomography (PET) nuclear medicine imaging procedures. Provides information needed to perform a variety of imaging and/or functional studies (e.g. liver, spleen, hepatobiliary, gastric reflux, gastrointestinal bleeds, lung, endocrine, central nervous system). Presents in vitro nuclear medicine procedures. Principles of sensitivity, specificity, accuracy, and predictive values of diagnostic testing are also examined. Restricted to students approved for appropriate senior year track in the Health Science major.

Prerequisite: HAN 395

6 credits

HAN 429 Radiopharmacy and Therapy in Nuclear Medicine
Examines the production, labeling, quality control, clinical biodistribution, and application of radionuclide tracers for nuclear medicine imaging. Covers radionuclide and radiopharmaceutical characteristics that provide suitable imaging properties. Discusses various aspects of
laboratory procedures (e.g. safe handling of radionuclides, radiation safety surveys, hot laboratory instruments, radiopharmaceutical preparation, quality control and sterile technique). Explores pathologies, radiopharmaceuticals, dosage calculation and administration, and patient management issues related to radionuclide therapy. Restricted to students approved for appropriate senior year track in the Health Science major. Prerequisite: HAN 395

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Description</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HAN 432</td>
<td>Introduction to Health Care Management</td>
<td>Introduces students to the practices and theories of health care policy and management. Presents an overview of the trends in public policy and management techniques. Restricted to students approved for appropriate senior year track in the Health Science major.</td>
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<tr>
<td>HAN 433</td>
<td>Statistics for Healthcare Management</td>
<td>Assists students in defining and understanding the terms used in the statistical treatment of data. Students will perform descriptive and inferential statistical treatments of data (i.e., perform and interpret hypothesis testing). Prerequisite: Restricted to students approved for appropriate senior year track in the Health Science major.</td>
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<tr>
<td>HAN 434</td>
<td>Corporate Compliance and Regulation</td>
<td>Provides an overview of recently enacted legislation requiring health care 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 Science major.</td>
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<tr>
<td>HAN 436</td>
<td>Continuous Quality Improvement in Health Care</td>
<td>Provides basic principles associated with Total Quality Management (TQM) and Continuous Quality Improvement (CQI). Aids identification and quality problem-solving found in all health care organizations utilizing 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.</td>
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<tr>
<td>HAN 440</td>
<td>Introduction to Community Health Education</td>
<td>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.</td>
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<tr>
<td>HAN 441</td>
<td>Empower SCI: Disability Studies and Independent Living</td>
<td>Provides an experiential exploration of independent living and disability studies through readings, visuals and activities in the EmpowerSCI program. Readings will introduce students to concepts of independent living as a social and political movement, and practical strategies for its establishment. Prerequisite: Must be involved in the EmpowerSCI program as participant, staff or volunteer. Permission of Instructor.</td>
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<tr>
<td>HAN 443</td>
<td>Aging and Disability</td>
<td>Provides comprehensive overview of aging and disability. Includes introduction to the field of geriatrics, age related disabilities, and the experiences of people with disabilities as they age. Presents an interdisciplinary perspective. Incorporates social, environmental, cultural, economic and historical issues related to disability and aging. Film, narrative, biography and guest speakers provide students with first-hand accounts of elders with disabilities. Restricted to students approved for appropriate senior year track in the Health Science major.</td>
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<tr>
<td>HAN 445</td>
<td>Independent Living and Disability</td>
<td>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 who are living independently. Restricted to students approved for appropriate senior year track in the Health Science major.</td>
<td>3</td>
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<tr>
<td>HAN 446</td>
<td>Disability Health and Community</td>
<td>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, &quot;invisible disabilities&quot;, 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.</td>
<td>3</td>
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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 communicative 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.
3 credits

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.
3 credits

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.
4 credits

HAN 450 Introduction to Public Health
Introduces the principles and practices of public health, including definitions and concepts, history and development, determinants of health, and ethical and legal aspects of public health. Orient 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.
3 credits

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.
3 credits

HAN 455 Health Literacy for Public Health
Explores the ways in which health literacy impacts patient care and the delivery of community health/public health services. Students will learn the skills needed to relay, process, and explain basic health information and services to assist patients and their families to make appropriate health decisions. Examines and analyzes issues of low health literacy, including populations at risk, research, measurement tools, writing in plain language and health communication techniques. Prerequisite: Restricted to students approved for appropriate senior year track in the Health Science major.
3 credits

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.
3 credits

HAN 462 Developing Health Information Systems
Introduces students to fundamental hardware and software concepts, operating systems, GUI or desktop 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.
4 credits

HAN 464 Health Information Systems Management
The course includes organizational change issues in health care 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.
4 credits

HAN 465 Concepts and Case Studies in Health Informatics
Explores and showcases various health care organizations’ selection, implementation and evaluation of current and emerging technologies in Health Care Informatics (HCI).
Explores practical applications of health care project management skills obtained from ongoing HCI courses. Analyzes case studies within the HCI sector through a series of dynamic discussions and group projects making recommendations based on research and industry best practices. In a simulated project management environment, students evaluate leadership challenges and methodologies of health informatics applications. Restricted to students approved for appropriate senior year track in the Health Science major. 3 credits

**HAN 466 Applied Health Care Informatics**

Provides overview of the role of information systems in health care 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 health care 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. 3 credits

**HAN 467 Utilization and Outcomes Research Methods**

Provides the necessary tools to evaluate and implement research methods and utilize outcomes within the health care system. Presents an overview of statistics and research methods and evaluation techniques by 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. 3 credits

**HAN 470 Occupational Health and Safety Engineering**

Provides fundamentals of occupational safety and health. Emphasizes safety engineering regulations, codes and practices, safety program administration, recognition of hazards, and implementation of hazard controls. Restricted to students approved for appropriate senior year track in the Health Science major. 3 credits

**HAN 471 Trauma and Trauma Systems**

Explores concepts and issues that are critical to the assessment and care of trauma patients. Covers kinematics, pathophysiology, trauma patient assessment and management, and trauma system development. Restricted to students approved for appropriate senior year track in the Health Science major. 3 credits

**HAN 472 Emergency Response to Hazardous Materials and Terrorism**

Students will learn how healthcare providers recognize and respond to hazardous material (HAZMAT) and terrorist incidents. Includes management strategies for hazardous materials incidents; identification of on-scene indicators of a suspicious incident; recognition of the tactics and objectives of terrorism; and scene/perimeter control issues unique to a terrorist incident. Restricted to students approved for appropriate senior year track in the Health Science major. 3 credits

**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. 4 credits

**HAN 475 Fundamentals of Environmental Health**

Introduces the key areas of environmental health. Utilizes a population health perspective. Emphasizes core concepts in environmental health (i.e. environmental epidemiology, environmental toxicology, environmental policy and regulation); agents of environmental diseases (i.e. microbial agents, ionizing and nonionizing radiation); and applications and domains of environmental health (i.e. water and air quality, food safety, waste disposal, occupational health, and injuries). Restricted to students approved for appropriate senior year track in the Health Science major. 3 credits

**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. 4 credits

**HAN 477 Medical Emergencies**

Presents concepts and issues critical to assessment and care of patients presenting with medical emergencies. Covers pathophysiology, medical patient assessment, and management of medical emergencies. Restricted to students approved for appropriate senior year track in the Health Science major. 3 credits

**HAN 478 Internship in Environmental Health**

A 90 hour internship experience provides real-time work experience and opportunity for students to apply knowledge and skills learned in environmental health concentration courses. Restricted to students approved for appropriate senior year track in the Health Science major.
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 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 anesthetists 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. 2 credits

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: HAN 395 3 credits

HAN 483 Cardiopulmonary Physiology for Anesthesia Technology
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. 3 credits

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 in order to facilitate anesthesia departmental function. Student 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. 1 credit

HAN 486 Principles and Practice of Radiation Therapy
Introduces practice and technical aspects of radiation therapy, including techniques specific to anatomical sites and treatment outcome statistics and options available to cancer patients. Includes cancer statistics; epidemiology; etiology; patient education and assessment; a review of the emotional and physical needs of cancer patients; and pharmacology and drug administration. Restricted to students approved for appropriate senior year track in the Health Science major. Prerequisite: HAN 395 3 credits

HAN 487 Introduction to Treatment Planning
Provides a detailed exploration of treatment planning in the field of radiation therapy. Includes, but is not limited to, in-depth instruction in planning algorithms, data transfer, dose computation, plan evaluation and implementation, and Quality Assurance (QA). Reviews and discusses a variety of treatment planning systems and treatment machines. Restricted to students approved for appropriate senior year track in the Health Science major. Prerequisite: HAN 395 3 credits

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 major. Prerequisite: HAN 395 3 credits

HAN 489 Pharmacology for Anesthesia Technology
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. 4 credits

HAN 490 Fundamentals of Medical Dosimetry and Contouring
Covers a variety of Radiation Therapy disease sites that are fundamental to the planning competencies required during the clinical year. Includes radio-geographical cross-sectional anatomy using Computerized Tomography (CT), Positron Emission Tomography (PET) and Magnetic Resonance Imaging (MRI) imaging; full-body anatomical contouring; tolerance doses for critical organs; patient treatment setup; immobilization devices; beam modifiers; Dose Volume Histograms and electron planning including but not limited to 3 Dimensional (3D) planning vs. Intensity Modulated Radiation Therapy (IMRT) of all competency sites. Discussions include Radiation Therapy Oncology Group (RTOG) protocols of all competency sites. Restricted to students approved for appropriate senior year track in the Health Science major. Prerequisite: HAN 395 3 credits

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. This is the 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: HAN 395 

4 credits

HAO 499  Health Science Teaching Practicum

Advanced students assist faculty members teaching Health Science courses. In addition to working as tutors during instructional periods, students have regular conferences with a faculty supervisor. Students are not allowed to apply more than 6 Teaching Practicum credits toward their Bachelor's degree. Permission of the instructor is required.

1-2 credits

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: HBA 461, HBY 350, HAO 319

4 credits

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. Open to west campus students.

1 credit

HAO 314  Introduction to Historical and Contemporary Practices of Occupational Therapy

Introduces values and philosophies that influenced the development of the occupational therapy profession and those that continue to influence current practices. Explores conceptual foundations, ideas, evidence, and resources to promote students' development of applied skills and clinical reasoning to support their clients in achieving greater participation in occupations.

3 credits

HAO 315  Foundations of Occupational Therapy

Explores major theories and practice frameworks 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.

3 credits

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. Prerequisite: HBA 461; Corequisite: HBP 310

4 credits

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.

3 credits

HAO 323  Mental Health Concepts

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. Includes the process of applying evidence based practices. Discusses multicultural factors as they relate to mental illness and the recovery process. Exposes the student to the DSMIV diagnoses and pharmacology of major psychiatric illnesses 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.

3 credits

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 practice frameworks used in contemporary occupational therapy mental health practice and 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.
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 461, HAO 319, HBP 310, HBY 350; Corequisite: HAO 310

HAO 331 Occupational Therapy Theory and Practice with Adults I

First of two course sequence the provides entry level knowledge and attitudes necessary to effectively work as an occupational therapist with adult populations in multiple settings. Supports occupational therapy performance and quality of life. Introduces core concepts of the occupational therapy and physical disabilities environment. Offers opportunity to define the role of occupational therapists and the impact of a multidisciplinary team on their role as a team member within the continuum of care. Prerequisite: HAO 315 and HAO 385

HAO 332 Occupational Therapy Theory and Practice with Adults II

Second of two part course sequence that focus on evaluation and treatment of adults with physical disabilities. 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 practice frameworks, evaluation/assessments, treatment interventions, selection of age-appropriate occupation-based activities, and activity analysis. Offers opportunity to further refine documentation and clinical reasoning skills through written and verbal assignments. Prerequisites: HAO 315, HAO 331, HAO 385

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, and NICU monitoring devices. Areas discussed include acute care risk factors, the complicated diagnoses often seen in this setting, the role of occupational therapists within this setting, frames of references and treatment techniques, modalities utilized.

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, 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.

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.

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 competence and the scope of diversity in healthcare.

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.

HAO 396 Fieldwork IA

The first of three introductory level clinical experiences. Offers opportunity to identify symptomology, 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.

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
1 credit

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
1 credit

HAO 421 Physical Agent Modalities for the 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.
1 credit

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
2 credits

HAO 440 Gerontology and Occupational Therapy
Focuses on the role of occupational therapists with older adults and families across the continuum of care. Addresses the influence of aging processes on physical, sensory, and cognitive function and their relationship to functional capabilities. Discusses psychosocial aspects of aging, and how environment, culture, and values impact lifestyle and occupational performance. Theories, issues, and clinical skills specific to practice in geriatric rehabilitation, home health care, long term care, adult day care programs, hospice, and community practice, including wellness and prevention programs are addressed. The role of practitioners with older adults with Alzheimer’s disease and related dementias, lifestyle redesign, the use of assistive technology to promote safety and functional capability, and the role of occupational therapy with the elderly driver is emphasized. Discusses the role of occupational therapy in supporting older adult's health, quality of life and community living. Students learn methods of assessment, use of EMB to help guide treatment, interdisciplinary approaches of providing treatment and methods of utilizing community resources to maximize the functional capabilities of older adults.
3 credits

HAO 451 Introduction to Research for Occupational Therapy
Provides a foundation for future professional and scholarly activities and stresses the importance of research for informed practice decisions. Students learn basic research concepts and statistical applications for the research process. Students learn to review and critique published, peer-reviewed research, identify research topics of interest, and initiate the literature review process. Presents tools needed to critique assessment tools in occupational therapy and interpret standardized scores. Requires the CORIHS human subjects research training. Emphasizes professional writing skills for publications and professional presentations.
3 credits

HAO 461 Functional Anatomy for Occupational Therapy
Presents an anatomical review of all bodily systems for students to acquire a working knowledge of the functional structure of the human body. Provides foundational knowledge for all other courses in the OT program. Builds on the students' prerequisite anatomy and physiology courses. Provides the anatomical knowledge related to the bodily systems in order to understand movement and function and selected pathological conditions, and their relationship to occupational therapy performance deficits in the physical domain.
4 credits

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.
2 credits

HAO 500 Functional Neuroscience
Presents an integrated approach to the general principles of organization and function of the autonomic, peripheral and central nervous systems. Presents these principles in a systems approach to neuroscience. The anatomy of a system will be followed with its physiology, pathophysiology relation to human function and clinical relevance to the occupational therapist. Clinical topics will include neurological testing, control of posture and balance, pain, muscle tone and spasticity, feedback versus feed-forward control, reflex versus voluntary control, control of reaching and locomotion, perception, and learning. Prerequisite: HAO 519, HAO 561
4 credits, Letter graded (A, A-, B+, etc.)

HAO 504 Introduction to the Historical and Contemporary Practices of Occupational Therapy
Introduces occupational therapy students to the values and philosophies that influenced the development of the profession, and those that continue to influence current practices. Explores conceptual foundations, ideas, evidence,
and resources that allow learners to begin developing applied skills and clinical reasoning skills to support clients in achieving greater participation in the occupations they want and need. The goal of the course is to have learners develop beginning skills for conducting contemporary occupational therapy practices.

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

HAO 505 Foundations in Occupational Therapy

Provides a conceptual foundation for occupational therapy theory and practice. Instructs students on the concepts of occupation, activity, purposeful activity and participation. Through lecture and laboratory sessions, students will experience working with the concepts they are learning. Examines the philosophical base of the profession, and explores the meaning and diversity of the frames of reference in contemporary occupational therapy practice. Emphasizes the centrality of occupation in health and wellness, through balance in performance areas and contexts. Explores the impact of disability, disease, and injury on the person, their family and society. Students will learn how to break down and analyze activities for their performance components, as well as how to grade and adapt activities for therapeutic purposes. Group discussions on social and political systems will focus on how they influence the delivery of health care services. Introduces the impact of culture on treatment and health practices. Explores the concept of theory development, and how theories, models of practice and frames of reference impact occupational therapy evaluation/treatment.

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

HAO 506 Life Span Growth and Development for Occupational Therapy

Provides students with a knowledge of developmental theories and factors influencing the normal developmental process. Developmental norms and sequences are examined with emphasis on physical (sensory and motor), cognitive, and psychosocial tasks. Discusses cultural and environmental influences on development. The coursework covers prenatal, child, adolescent, and adult development utilizing many frames of references from occupational therapy points of view regarding development.

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

HAO 507 Clinical Conditions in Occupational Therapy

Addresses clinical diagnoses, symptomatology, and prognosis of many major clinical conditions commonly encountered in current practice. Emphasize the impact of disease on individual physical, cognitive and emotional function and on families and society. Case studies will be utilized within this course to enable students to relate major theories and frames of reference to treatment approaches for common diagnoses and medical conditions. The course is intended to help build a foundation for subsequent occupational therapy theory and practice courses and to provide a foundation for Fieldwork II experiences. Prerequisites: HAO 505; HAO 507; HAO 519; HAO 561

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

HAO 508 Theories of Adult Rehabilitation

Provides entry-level knowledge and attitudes necessary to effectively work as an occupational therapist with the adult population in multiple settings to support occupational performance and quality of life. Discusses and evaluates the core concepts of the occupational therapy and physical disabilities environment. Students will be able to define the role of the occupational therapist as well as the impact of a multidisciplinary team on their role as a team member and within the continuum of care of adults while applying evidence based practice. Prerequisites: HAO 505; HAO 507

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

HAO 509 Occupational Therapy Theory and Practice in Pediatrics

Presents occupational therapy theories, assessments, and treatment processes as they pertain to the pediatric population. Integrates several of the predominant models in current practice with material from previous and concurrent coursework. Covers abnormal development, acute and chronic medical conditions, their effect on the CNS, orthopedic and musculoskeletal systems. Reviews major causes of disability, the etiology and prognoses Discusses the impact on the family and cultural implications. Students learn about selecting age and developmental stage appropriate evaluations, treatment techniques/procedures. Students enhance their activity analysis skills, assessment, treatment planning, documentation skills, and professional interaction through laboratory, class assignments, and fieldwork. Prerequisite: HAO 505; HAO 507; HAO 561

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

HAO 510 Occupational Therapy Theory and Practice in Geriatrics

Focuses on adapting the environment to improve the client's quality of life. Examines the therapist's ability to help the patient reintegrate into society. Covers Americans with Disabilities Act; mobility (power and manual); seating/postioning systems; adapted toys; augmentative communication systems; computer access; environmental control units; independent living aids; and vocational adaptations. Provides foundation and knowledge of ergonomic, work hardening, functional capacity evaluations, and vocational programs. Exposes students to different occupational therapy work settings and employment, awareness of federal regulations for work-related programs, and certification requirements for this emerging practice area. The lab sessions offer practical applications of principles discussed in lectures.

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

HAO 511 Kinesiology for Occupational Therapy

Kinesiology is the study of human motion. Designed to establish a working knowledge of biomechanical principles as well as detailed understanding of the osteokinematics and arthokinematics of the various joints of the body. Students will be able to apply their knowledge of biomechanics into real life functional applications for a variety of occupations. The course consists of both lecture and laboratory sessions. Laboratory sessions provide the student with practical applications of principles discussed in lecture. In addition, the laboratory
sessions will allow the student to become proficient in the areas of surface anatomy and palpation, manual muscle testing, and goniometry. The student will study normal and pathological movement, including its impact on function. Prerequisite: HAO 561 4 credits, Letter graded (A, A-, B+, etc.)

HAO 520 Substance Abuse and Occupational Therapy

Addresses physiological, sociological, and psychological effects of substance abuse on the abuser and his/her environment. Presents drug classifications, along with effects and withdrawal symptoms. Discusses treatment models, philosophies, and methods. Students will learn how to design both individual and group interventions. Explores in detail the occupational therapeutists role in the evaluation and treatment of substance abuse across the life-span and across disabilities. Reviews the use of 12-step programs and alternative treatment models, as will prevention programs, such as smoking cessation. Requires Internet Explorer 10, 9, or 8; Firefox; Chrome; Windows 8, 7, Vista or XP; Mac OS X 10.6, 10.7 and 10.8; or Safari 5.1 and 6. Prerequisites: HAO 523, HAO 505 2 credits, Letter graded (A, A-, B+, etc.)

HAO 522 Assessment and Treatment of Adult Rehabilitation

This is the second part of a two part course where learning activities focus on the valuation and treatment of adults with physical disabilities. Examines injury, illness, disease and the effect on occupational performance in the areas of work, self-care and leisure. Occupational therapy theories and practice are learned, including frames of reference, evaluation/assessments, treatment interventions, selection of age-appropriate occupation-based activities, and activity analysis are explored. Students will have the opportunity to further refine their documentation and clinical reasoning skills through written and verbal assignments and apply evidence based practices. Prerequisites: HAO 505, HAO 507, HAO 508 3 credits, Letter graded (A, A-, B+, etc.)

HAO 523 Assessment and Intervention of Psychosocial Issues

Explores the psychosocial aspects of disability as they affect the function of the individual, the family and the community. Lectures and presentations will be related to the recognition of psychosocial problems and how they can be better understood, minimized, or eliminated. Provision of mental health services across all levels of care will be delineated. Multicultural factors will be discussed as they relate to mental illness and the recovery process. The course exposes the occupational therapy student to the DSM-V and the pharmacology of major mental illnesses. Psychosocial theories guiding assessment and intervention will be thoroughly discussed. Interviewing skills are demonstrated and practiced in the lab sessions. 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 and lectures. Students will be introduced to and given the opportunity to practice a variety of assessments utilized in psychosocial occupational therapy practice. This course is to provide the student with the knowledge, skills, and attitudes necessary to function as an occupational therapist in a psychosocial/mental health treatment setting. Prerequisite: HAO 504 4 credits, Letter graded (A, A-, B+, etc.)

HAO 524 Assessment & Interventions of the Upper Extremities

Through lecture, student/instructor interaction, projects, and laboratory experience, students will develop a knowledge base of fundamental upper extremity therapy topics that will provide a foundation for clinical reasoning and treatment approach. Topics will include anatomy, common pathologies, orthotics, evaluation, and treatment. The course will teach students about the design, biomechanical principles, fit, function, use, care and patient education involved with upper extremity orthotics; students are introduced to upper and lower extremity prosthetic devices. Lecture and laboratory study will enable the occupational therapy student to gain an understanding of various physical agents currently used in the rehabilitation practices. Prerequisite: HAO 500, HAO 507, HAO 508, HAO 519, HAO 522 3 credits, Letter graded (A, A-, B+, etc.)

HAO 525 Vision, Perception, and Cognition

Focuses on principles and techniques for the rehabilitation of visuocognitive dysfunction. Presents the theoretical rationale and specific skills needed to evaluate and treat a wide range of visual, perceptual and cognitive performance components. Includes a systematic bottom up approach to the evaluation of the adult patient with visuocognitive dysfunction. Explores a variety of treatment approaches and specific treatment techniques that can improve functional performance and outcomes, drawing from both the neurosciences and Occupational Therapy frames of reference. Emphasizes clinical reasoning and the use of both remediation and compensatory strategies within the framework of Occupational Therapy practice. Prerequisites: HAO 505, HAO 507, HAO 508 2 credits, Letter graded (A, A-, B+, etc.)

HAO 526 Gerontology and Occupational Therapy

Focuses on the role of occupational therapy with the aged within geriatric rehabilitation settings (in-patient, out-patient and home care); long-term care programs; wellness and safety programs; hospice; community based programs (socialization, day treatment, adult day care programs), and alternative housing environments. Addresses the aging process and its physiological, sociological, and psychological effects, with attention to heterogeneity and older person's strengths and capabilities. Presents common impairments and disabilities and rehabilitation needs of older persons. Students will develop and demonstrate skills in evaluation, treatment planning and therapeutic adaptation, documentation, and discharge planning (including collaborative client and family education), and demonstrate knowledge of assistive devices, equipment, and technology/ environmental modifications to support community living and to improve the quality of life of older persons. Addresses the importance of evidence-based practice, including occupational therapy, life-long learning
and professional development, the benefits of collaborative OT -OTA partnerships and the relationships between policy, legislation and practice. Include aging and gender issues, successful aging, and community and home safety. Provides a conceptual framework for the study of gerontology as it relates to occupational therapy and develops the skills and knowledge to understand major issues in theory, research, and practice related to the older adult. Prerequisites: HAO 505, HAO 507, HAO 508, HAO 522

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

HAO 527 Sensory Integration Theory and Practice in Occupational Therapy

Presents understanding of how sensory integration as a brain function as it relates to everyday occupations and how sensory integration is manifested in the daily life problems of children who experience difficulty with sensory integration. Expands sensory integration knowledge base and skills as a clinical frame of reference by identifying types of sensory integrative dysfunction; reviewing approaches to clinical assessment; outlining the characteristics of both direct and indirect modes of intervention; and addressing the issue of effectiveness research. Prerequisites: HAO 509, HAO 506, HAO 505

2 credits, 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.

4 credits, 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

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

HAO 534 The Occupational Therapy Manager

This course builds on previously learned management concepts examining in greater detail the specific responsibilities of the manager of occupational therapy services. Students will learn the mechanics of designing and implementing an occupational therapy department, program or practice. Financial, legal and administrative issues will be discussed, along with marketing strategies. Lectures and class discussions will prepare the student for the culminating course assignment of designing a unique occupational therapy practice. Prerequisite: successful completion of undergraduate Occupational Therapy curriculum.

3 credits, 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.

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

HAO 549 Introduction to Research for Occupational Therapy

Description: Provides a foundation for future professional and scholarly activities and stresses the importance of research for informed practice decisions. Presents basic research concepts and statistical applications for the research process. Presents methods to review and critique published, peer-reviewed research, identify research topics of interest, and initiate the literature review process. Provides tools needed to critique commonly used assessment tools in occupational therapy and to use and interpret standardized scores. Requires the CORIHS human subjects research training. Emphasizes professional writing skills for publications and professional presentations. Explores current research methodologies used in occupational therapy to facilitate beginning research skills. Prerequisite: Completion of all first year courses.

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

HAO 551 Research Design and Methods for OT

Provides students beginning research and critical inquiry skills through learning current occupational therapy related research methods and by the design of research grant proposals. Students gain fundamental critical inquiry and writing skills necessary to identify appropriate funding sources and write grant proposals for research and program development. Students learn to design qualitative research projects and analyze qualitative data.

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

HAO 561 Functional Anatomy Review

Provides an anatomical review of all bodily systems in order for students to acquire a basic working knowledge of the functional structure of the human body. Provides foundational knowledge for all other courses in the Occupational Therapy Program. Students will apply knowledge learned to formulate hypotheses about occupational dysfunction associated with abnormalities within systems. Utilizes critiques of research to expand on knowledge from lecture and lab.

4 credits, 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 various educational settings including professional education, professional development, workplace learning and community 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 3 credits, Letter graded (A, A-, B+, etc.)

HAO 570 Global Communities, Occupations and Health
Explores innovative, non-traditional and emerging areas of occupational therapy practice. Students meet and dialog with occupational therapy practitioners and/or other health care professionals who have developed private practices, are consultants, and are involved in emerging areas of practice. Presents timely articles concerning health care trends and non-traditional/emerging practice areas. Builds upon student's prior knowledge and coursework and integrates AOTA's Standards of Practice, Core Values and Attitudes of OT, and AOTA's Code of Ethics, with attention to current and potential OT/OTA partnerships in community and non-traditional settings. Prerequisite: Fall Year three courses. 2 credits, Letter graded (A, A-, B+, etc.)

HAO 573 Professional Behaviors I
Introduces professional behaviors, including basic communication and documentation skills, with a focus on expectations of fieldwork sites. Students will learn the concept of reflective practice, and how to use a reflective journal. Introduces the professional portfolio as a means to document clinical competence. Examines the nature of the supervisory process with strategies to maximize the use of clinical and administrative supervision. Explores cultural competency and the scope of diversity in health care. Emphasizes the importance of life-long learning through continuing education and other methods. Includes lectures, presentations, role-plays and other exercises to achieve learning objectives. Prerequisite: Year One Summer and Fall Courses 1.5 credits, 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 1 credit, 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. 2 credits, 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. 2 credits, Letter graded (A, A-, B+, etc.)

HAO 585 Disability Studies 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. 2 credits, Letter graded (A, A-, B+, etc.)

HAO 586 Fieldwork Level IA
The first of three introductory level clinical experiences. Offers the opportunity to identify symptomatology, observe treatment interventions and formulate treatment plans in a psychosocial practice setting. Promotes effective communication skills used with patients and professionals. Uses reflective journals to monitor development of professional behaviors and skills. Prerequisite: HAO 523 1 credit, Letter graded (A, A-, B+, etc.)

HAO 587 Fieldwork Level IB
This is the second of three introductory level clinical experiences. It provides students with the opportunity to identify symptomatology, observe treatment interventions, and formulate treatment plans in an adult physical disabilities setting. It is designed to promote effective communication skills used with patients and professionals. Reflective practice journals will be used to monitor professional behaviors and skills. Prerequisites: HAO 508 HAO 586. 1 credit, Letter graded (A, A-, B+, etc.)

HAO 588 Fieldwork Level I C
The third of three introductory level clinical experiences. Offers the opportunity to identify symptomatology, 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 586, HAO 587
1 credit, 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. 2 credits, Letter graded (A, A-, B+, etc.)

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

HAO 593 Case Studies III

The third in a series of three clinical reasoning seminars, this course will focuses 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. 2 credits, Letter graded (A, A-, B+, etc.)

HAO 595 Service Learning and Capstone Project

Incorporates in-depth theoretical and practical knowledge for maximum integration of service and classroom work. Includes discussion, journals, essays and other reflective writing methods. Explores reflection, action skill building, and examination of theory and practice of citizenship as applied through community involvement. Students provide 30 hours of service learning. A scholarly project will be the culminating activity for the program. Students will present outcomes of their service learning project in poster format. Pre-requisite: HAO 597. 2 credits, Letter graded (A, A-, B+, etc.)

HAO 596 Fieldwork Level IIA

Fieldwork IIA is 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 two level II fieldwork experiences exposes the student to a variety of clinical conditions in a specific practice area for 12 weeks on a full time basis. 12 credits, S/F graded

HAO 597 Fieldwork IIB

This second clinical fieldwork experience 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. 12 credits, S/F graded

HAO 598 Fieldwork IIC

Fieldwork IIC is the third of three in-depth clinical experiences in the delivery of occupational therapy services, 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 to develop competency and expand a repertoire of occupational therapy assessments and interventions related to human performance. The three Level II fieldwork experiences expose students to a variety of clinical conditions and practice areas across the life span. Students are assigned to a fieldwork site for 10 weeks on a full time basis. 10 credits, S/F graded

HAO 599 Fieldwork Continuation

This course is for occupational therapy students continuing with Fieldwork. 0 credit, S/F graded

HAP

HAP 501 Community Health and Service Learning for Physician Assistant

Provides opportunities for PA students to learn and reinforce medical knowledge and skills through service to local and international communities. Learning methods will enhance the acquisition of clinical skills, cultural competencies and expand knowledge of community resources for underserved populations. Open to entry-level PA students only. 2 credits, Letter graded (A, A-, B+, etc.)

HAP 504 Professional Practice Issues

Provides information critical to understanding the development and organization of the physician assistant profession in the
United States. Explores the dynamics of PA practice, including such issues as responsibilities to patients and the public, professional regulation and involvement, team care, cultural diversity, and developing trends in PA practice. Encourages the exploration, critiques, and evaluation of professional practice issues related to the quality, delivery and cost-effectiveness of our nation's health care system. Open to entry-level PA students only.
2 credits, Letter graded (A, A-, B+,...)

**HAP 505 Contemporary Issues in Health Care Delivery**

Provides physician assistants an overview of important information and trends in health care delivery in the 21st century. Includes topics such as health care systems; health policy and advocacy; information technology; medical genetics and pharmacogenomics; geriatrics; health law; health literacy; health disparities; and other contemporary topics. Presents opportunities for students to explore in depth one special interest area. Open to post professional PA students only.
3 credits, Letter graded (A, A-, B+,...)

**HAP 509 Integrative Systems Physiology**

Introduces students to human integrative systems physiology. Includes exposure to physiological control systems, emphasizes in detail each organ system and how homeostasis is maintained. Includes membrane, muscle, central and peripheral nervous system, cardiovascular, respiratory, renal, gastrointestinal, and endocrine physiology. Presents material and incorporates select examples of pathophysiology to emphasize relevance of material. Students will solidify an understanding of the structures and functions across all systems in the human body under normal conditions and select pathophysiology. Knowledge gained of normal function will be applied towards making predictions about physiologic function in response to disease states. Students are expected to gain a cumulative understanding of physiologic function and are challenged to apply this knowledge towards problem solving and interpreting physiologic scenarios.
4 credits, Letter graded (A, A-, B+,...)

**HAP 510 Clinical Laboratory Medicine**

Presents fundamental principles of laboratory medicines. Strengthens the student's ability to select, perform and interpret the results of basic clinical laboratory procedures to aid in formulating a preliminary diagnosis and management plan. The course is offered after students have acquired a foundation in human physiology and anatomy. Open to entry-level PA students only.
3 credits, Letter graded (A, A-, B+,...)

**HAP 511 Clinical Pharmacology Seminar for Physician Assistants**

Provides an opportunity for physician assistants to enhance their ability to rationally prescribe pharmaceuticals. The on-line seminars/case discussions integrate information presented via classroom and web-based lectures. At the completion of this course, students will have deepened their understanding of how to appropriately select medications in various clinical settings, with knowledge of potential advantages, disadvantages, and relative costs. Post-professional PA students only.
3 credits, Letter graded (A, A-, B+,...)

**HAP 512 Principles of Clinical Pharmacology**

Physician assistant students will learn to rationally and safely prescribe pharmaceuticals for patients in a variety of clinical settings. Emphasizes the integration of pharmacologic principles and properties with the clinical uses of the most commonly prescribed medications and provides an opportunity for students to deepen understanding and application of knowledge in the setting of patient clinical cases. Reinforces and integrates course information with content learned during the Clinical Medicine courses of the PA curriculum. Open to entry-level PA students only.
6 credits, Letter graded (A, A-, B+,...)

**HAP 514 The Problem Oriented Medical Record-History and Physical Examination**

The course provides students with an organized, sequential approach to the history and physical examination. Students will be able to perform both complete and directed histories and physical examinations and accurately document their findings. Open to entry level PA students only.
5 credits, Letter graded (A, A-, B+,...)

**HAP 516 Problem Based Learning (PBL)**

Provides students with the opportunity to develop critical thinking and problem solving skills in a seminar, small group environment. Students will learn to connect the knowledge and attitudes developed in behavioral, basic and clinical science courses and apply it to patient care. Increases student capacity to seek and apply knowledge as individual problem solvers and members of a health care team. Open to entry level PA students only.
1 credit, Letter graded (A, A-, B+,...)

**HAP 518 Medical Director Presentation Rounds**

Provides students with feedback on oral presentations derived from patient history and physical examinations completed by students. Evaluations are based on student's ability to critique an incomplete history and physical, identify issues that require further discussion in the HPI and physical exam, write a complete problem list, and document an assessment and plan. Open to entry level PA students only.
.5 credit, Letter graded (A, A-, B+,...)

**HAP 521 Clinical Medicine I**

Focuses on mastery of the knowledge, skills, and attitudes necessary to construct a comprehensive patient database and management plan. Students are introduced to, and become proficient in, medical interviewing and performing a physical examination. Emphasizes the process of synthesizing data to formulate a diagnostic plan through learning activities such as lectures, small group process, problem based learning, case studies, and clinical skills laboratories. Teaches data gathering and recording in the problem oriented medical
record format. The diagnostic process is taught in an organ systems (or medical subspecialty) approach. Students learn to recognize and manage physical and mental health problems. Students are encouraged to think critically as an integral part of developing a logical, sequential and humanistic approach to their patient responsibilities and mastering medical information. The ultimate goal of these clinical medicine courses is to insure that students are optimally prepared to participate in the delivery of high quality medical care in both an in-patient and out-patient setting. Prerequisites: HAP 504 and HBA 561 (minimum grade of C) Open to entry-level PA students only.

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

HAP 522 Clinical Medicine II
Focuses on mastery of the knowledge, skills, and attitudes necessary to construct a comprehensive patient database and management plan. Students are introduced to, and become proficient in, medical interviewing and performing a physical examination. Emphasizes the process of synthesizing data to formulate a diagnostic plan through learning activities such as lectures, small group process, problem based learning, case studies, and clinical skills laboratories. Data gathering and recording are taught in the problem oriented medical record format. The diagnostic process is taught in an organ systems (or medical subspecialty) approach. Students learn to both recognize and manage physical and mental health problems. Students are encouraged to think critically as an integral part of developing a logical, sequential and humanistic approach to their patient responsibilities and mastering medical information. The ultimate goal of these clinical medicine courses is to insure that students are optimally prepared to participate in the delivery of high quality medical care in both an in-patient and out-patient setting. Prerequisite: HAP 521 (minimum grade of B-). Open to entry-level PA students only.

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

HAP 523 Clinical Medicine III
Focuses on mastery of the knowledge, skills, and attitudes necessary to construct a comprehensive patient database and management plan. Students are introduced to, and become proficient in, medical interviewing and performing a physical examination. Emphasizes the process of synthesizing data to formulate a diagnostic plan through learning activities such as lectures, small group process, problem based learning, case studies, and clinical skills laboratories. Data gathering and recording are taught in the problem oriented medical record format. The diagnostic process is taught in an organ systems (or medical subspecialty) approach. Students learn to recognize and manage physical and mental health problems. Students are encouraged to think critically as an integral part of developing a logical, sequential and humanistic approach to their patient responsibilities and mastering medical information. The ultimate goal of these clinical medicine courses is to insure that students are optimally prepared to participate in the delivery of high quality medical care in both an in-patient and out-patient setting. Prerequisite: HAP 522 (minimum grade of B-). Open to entry-level PA students only.

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

HAP 524 Clinical Medicine IV
Focuses on mastery of the knowledge, skills, and attitude necessary to construct a comprehensive patient database and management plan. Students become proficient in utilizing the history and physical information as they begin to synthesize data to formulate a diagnostic plan. This is emphasized through learning activities such as lectures, small group process, case studies, and clinical skills laboratories. The diagnostic process is taught in an organ systems approach. Students learn to both recognize and manage physical and mental health problems. Students are encouraged to think critically as an integral part of developing a logical, sequential and humanistic approach to their patient responsibilities and mastering medical information. Open to entry level PA students only. Prerequisite: HAP 523 (minimum grade of B-).

Open to entry-level PA students only.

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

HAP 528 Genitourinary, Sexual and Reproductive Health
A comprehensive introduction to obstetrics and gynecology (OB/GYN), female and male genitourinary system (GU) and human sexuality. Students will learn about structures, function, evaluation and treatments of the various diseases and conditions. Open to entry level PA students only.

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

HAP 532 Diagnostic Imaging
Provides an overview of common diagnostic imaging modalities and their indications, limitations, benefits and potential risks. Students learn how to utilize plain radiographs and other imaging studies in the diagnosis of disease with an emphasis on recognition of normal findings and their comparison to the abnormalities found in disease processes. Open to entry-level PA students only.

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

HAP 534 Introduction to Clinical Psychiatry
Presents key principles of psychiatric evaluation and interviewing to include the mental status exam. Focuses on psychiatric problems seen in primary care, introduces the differential diagnosis and treatment of major psychiatric disorders such as anxiety, personality and mood disorders, psychosis, substance abuse, and somatoform disorders. Fosters an awareness of social patterns that exert an impact on mental functioning. Open to entry-level PA students only.

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

HAP 538 Clinical Aspects of Palliative Care
Provides students with knowledge and skills relevant to the practice of hospice and palliative medicine. Involves care of patients at all stages of progressive disease, including symptom management, restoration and maintenance of quality of life. Focuses on patient-directed goals. Explores coordination of services and care, using a holistic, team-based model and communication tools. Open to any healthcare professional who has an interest or work experience in hospice and palliative medical care.

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

HAP 539 Hospice and Palliative Care Policy Issues
Introduces healthcare professionals to policy issues and fundamental tools relevant to the delivery of hospice and palliative care. Addresses aging population; workforce issues; healthcare expenditures and reimbursements; and advancement of medical technology. Includes ethics, barriers to practice, and medical legal issues. Open to any healthcare professional who has an interest or work experience in hospice and palliative medical care.

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

**HAP 541 Principles and Practices of Clinical Prevention and Population Health**

This course provides clinically practicing physician assistants an in-depth understanding of health promotion, disease prevention and population health and resources for utilization of this information in their clinical practices. The framework for the course consists of four components including evidence base for practice; clinical prevention services-health promotion; health systems and health policy; and community aspects of practice. Includes both individually-oriented and population-oriented preventative efforts, as well as interaction between the two. Students will be required to complete a health promotion or disease prevention project relevant to their community or clinical practice. Post-professional PA students only.

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

**HAP 545 Ethics and Health Care for Physician Assistants**

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, transplantation, genetics, research on human subjects, pediatrics, cloning, stem cells and mental health through case studies. Reviews classic cases in health care ethics and their shaping of health policy. Discusses patient education and the Physician Assistant professional codes of ethics and standards. Open to PA students only.

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

**HAP 549 Clinical Skills for the Physician Assistant Student**

The clinical skills course provides the physician assistant student with an overview of common clinical procedural skills and their indications, limitations, benefits and potential risks. Students are taught how to perform a number of commonly performed clinical procedures. Open to entry level PA students only.

1 credit, S/F graded

**HAP 551 Research Design and Evidence-Based Medicine**

Provides students with basic knowledge and skills needed to formulate research questions and hypotheses, develop research protocols, critically evaluate and analyze scientific and medical journals, and to conduct computerized searches and literature reviews. Describes principals of Evidence-Based Medicine and emphasizes various types of clinical questions and tools available to answer them. By the end of this course, the student will choose a proposed topic for their capstone project. Open to entry-level PA students only.

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

**HAP 552 Evidence Based Medicine: Evaluating and Applying Clinical Research**

Provides practicing PAs with the knowledge and skills to develop and evaluate clinical research questions, hypotheses, designs and protocols, and to critically evaluate and analyze scientific and medical journals. Students will learn to conduct computerized searches and literature reviews. Introduces the principles and practice of Evidence-Based Medicine, with emphasis on various types of clinical questions typically encountered in PA practice, and tools available to answer them. Course will focus on student areas of interest, and projects will be based on clinical cases encountered in the student's practice. Students will apply their knowledge of research and EBM by designing a clinical question and conducting and reporting on a thorough literature search on their topic of choice. Post-Professional PA students only.

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

**HAP 554 Research Writing for Health Professionals**

This course prepares students to write and edit the components of research proposals and essays. Students will review required components for research proposals and practice writing and editing components and other assigned essays. Students will learn a six phase editing process to apply to their own writing and will learn to critique the writing of other students.

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

**HAP 556 Teaching Strategies**

This course provides an overview of the principles associated with effective teaching. Students will combine theory and practice while developing teaching skills that promote learning and diversity within a variety of education settings. Topics emphasize the practical aspects of teaching and include teaching models, student learning styles, course objectives, learning outcomes evaluation, and classroom ethics. Students will be required to complete a final project that will be presented, discussed and evaluated in class. For post-professional PA students only or with permission of the Program Director.

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

**HAP 557 Introduction to Clinical Informatics**

Introduces health care professionals to concepts surrounding clinical information systems and the practical applications of these concepts. Provides an overview of the Clinical Informatics field including definitions, theory, technologies, and workflows. Focuses on topics related to the delivery of health care within the realm of the electronic medical record systems, including policy, leadership, regulatory affairs and administration. Includes synchronous and asynchronous online learning activities.

3 credits, Letter graded (A, A-, B+, etc.)
HAP 558 Epidemiology

Presents epidemiologic concepts used to study health and disease in populations. Provides information about the major causes of morbidity and mortality, including methods of measurement and data sources. Observational and experimental epidemiologic studies will be described and their advantages and disadvantages compared. Students will develop skills needed to critically review epidemiologic research studies published in peer-reviewed journals. Introduces various areas of epidemiologic study, including cancer, molecular/genetic, environmental, occupational, social and behavioral, and infectious disease/surveillance. For post-professional PA students only or permission of the Program Director.
3 credits, Letter graded (A, A-, B+, etc.)

HAP 559 Complementary and Alternative Medicine

Examines the theory, philosophy, and applications of complementary and integrative medicine within today's health care system. Presents many alternatives to traditional Western or allopathic medicine, and how these various models, systems and therapies impact the delivery of health care in the United States. Prepares students to best respond to consumers requests for information on the use of therapies. Emphasizes an evidence based approach and promotes awareness of clinical research currently done in these areas. Examines various methods of access to resources and how to incorporate these approaches into clinical practices.
3 credits, Letter graded (A, A-, B+, etc.)

HAP 561 Master's Project I

Students will work with a faculty mentor to develop a clinical question and perform an initial literature search on a topic of interest. Topics should be well-focused and may include psychological, economic or ethical issues in health care as well as diagnostic or treatment-related questions. Following review by a faculty mentor, the student will submit summaries of selected articles as well as an outline. Open to entry-level PA students only. Prerequisite: HAP 551
1 credit, Letter graded (A, A-, B+, etc.)

HAP 562 Masters Project II

Students will work with their faculty mentor to refine a clinical question and revise the presentation outline and article summaries submitted at the end of HAP 561. Emphasis will be placed on thoroughness of the literature search and clarity of the presentation. By completion of this course, students should have the presentation in its final form, and have developed a draft of a final paper. Open to entry-level PA students only. Prerequisite: 561
1 credit, Letter graded (A, A-, B+, etc.)

HAP 563 Masters Project III

Students will revise the presentation submitted at the end of HAP 562 with input from their faculty mentor, who will guide them in developing a concise, professional-appearing product, suitable for presentation at a professional conference. Students will present this to the faculty and other members of the class, and will be evaluated on the content, visual, and oral components of their work. Students will also complete and submit their final paper. Open to entry-level PA students only. Prerequisite: HAP 562
1 credit, Letter graded (A, A-, B+, etc.)

HAP 570 Internal Medicine Clerkship

Provides practical clinical experience in caring for adult hospitalized patients on a medical service. Strengthens the student's skills in developing a comprehensive database with regard to a wide variety of common inpatient medical problems, stressing mastery of cognitive and affective information that enables the student to recognize normal and assess deviation from normal, and effectively consult and refer. Exposure to out-patient care is often included. Students learn to address personal and social issues that influence the care of the medical patient. Prerequisite: Successful completion of preclinical year courses.
5 credits, Letter graded (A, A-, B+, etc.)

HAP 571 Obstetrics and Gynecology Clerkship

Provides students with practical clinical experience in the differential diagnosis, evaluation, management, and consultation and referral for normal and abnormal conditions in obstetrics and gynecology. Students will gain skills in obtaining patient histories, physical diagnosis and medical decision making through exposure to a broad base of patients with a wide variety of personal and social issues that influence patient care. Prerequisite: Successful completion of preclinical year courses.
5 credits, Letter graded (A, A-, B+, etc.)

HAP 572 General Surgery Clerkship

Provides students with practical clinical experience in the evaluation and management of surgical patients. Through exposure to a broad base of surgical patients, students will master the knowledge, attitudes and skills necessary to obtain focused patient histories and physical exams, construct a differential diagnosis, make sound medical decisions, and effectively consult and refer. Students will learn to address a variety of personal and social issues that influence the care of the surgical patient. Prerequisite: Successful completion of preclinical year courses.
5 credits, Letter graded (A, A-, B+, etc.)

HAP 574 Emergency Medicine Clerkship

Provides students with practical clinical experience in the medical care of acutely ill or injured patients. Students will enhance skills in obtaining focused patient histories, performing focused physical examinations, mastering emergency medical management and decision making, and effective consultation and referral. Emphasis is placed on student recognition of life threatening situations and the response to such situations. Students will learn to address a wide variety of personal and social issues that influence the care of the emergency medical patient. Prerequisite: Successful completion of preclinical year courses.
5 credits, Letter graded (A, A-, B+, etc.)

HAP 575 Psychiatry Clerkship
Provides students with practical experience in the recognition, evaluation and management of patients with mental illness. Through clinical interaction with mental health patients and workers, students will develop an understanding of the biological and psychosocial factors that influence a variety of psychiatric conditions, and effectively consult with other professionals and refer patients to the support services that are required to optimize the care of the psychiatric patient. Students will learn to address a wide variety of personal and social issues that influence the care of this patient population. Prerequisite: Successful completion of preclinical year courses. 4 credits, Letter graded (A, A-, B+, etc.)

HAP 576 Medicine Preceptorship

Provides students with practical clinical experience working with the ambulatory medical patient. This preceptorship augments and develops directed data collection skills emphasizing a wide range of primary care medical problems and their management. Cognitive and affective skills that enable the student to recognize normal findings and assess abnormal findings and effectively consult and refer are a key aspect of learning during this experience. Students will learn to address a wide variety of personal and social issues that influence the care of the medical patient. Prerequisite: Successful completion of preclinical year courses. 5 credits, Letter graded (A, A-, B+, etc.)

HAP 577 Pediatric Preceptorship

Provides students with practical clinical experience working with ambulatory pediatric patients. Through exposure to a wide variety of primary care pediatric problems, students will develop directed data collection and patient management skills and learn how to effectively consult and refer. The preceptorship stresses those cognitive and affective skills that enable the student to recognize normal findings and assess abnormal findings. Students will learn to address a wide variety of personal and social issues that influence the care of the pediatric patient. 5 credits, Letter graded (A, A-, B+, etc.)

HAP 579 Geriatrics Clerkship

Provides students with practical clinical experience in working with elderly patients. Augments and strengthens students’ skills in developing a thorough database and enhances student understanding of when to request a consultation or make a referral. Students work with a wide variety of common geriatric problems and learn how to appropriately modify their management approach to the indications, limitations, and methodology of diagnostic procedures and therapeutic regimens in the elderly. Students will also learn to address a wide variety of personal and social issues that influence the care of the geriatric patient. Prerequisite: Successful completion of preclinical year courses. 5 credits, Letter graded (A, A-, B+, etc.)

HAP 580 Orthopedic Clerkship

Provides students with practical experience in the care of patients with musculoskeletal disorders and acute injuries in the primary care setting. Students will develop the knowledge, attitudes and skills necessary to obtain directed patient histories, perform focused physical exams, make sound clinical decisions, and effectively consult and refer through exposure to patients with a wide variety of orthopedic problems. Students will learn to address a wide variety of personal and social issues that influence the care of the orthopedic patient. Prerequisite: Successful completion of preclinical year courses. 4 credits, Letter graded (A, A-, B+, etc.)

HAP 581 Clinical Elective

Provides students with the opportunity to explore an area of medical or surgical practice beyond basic required rotations. Students are encouraged to choose an area of emerging importance in health care and PA practice and/or a potential employment setting. This elective clerkship further augments and develops patient management skills in the chosen medical or surgical discipline and must be selected in consultation with the student’s program faculty advisor. Students will learn to address a wide variety of personal and social issues that influence the care of many patients. Prerequisite: Successful completion of preclinical year courses. 4 credits, Letter graded (A, A-, B+, etc.)

HAP 588 Practicum

Provides post-professional Physician Assistant students opportunities to apply theories and skills learned in the program. A limited number of students are allowed to develop a practicum project that is uniquely designed to meet his/her needs. Students will plan and implement a project within one of the following areas: 1.) research, 2.) administration and management, 3.) education, 4.) leadership/professional development, or 5.) professional writing. Acceptable projects must include design, implementation and analysis phases as well as a bibliography. Projects are approved by the Program Director and a mentor is assigned to assist in the development of a practicum proposal. Enrollment requires permission of the Program Director. The course may be repeated once. 3 credits, Letter graded (A, A-, B+, etc.)

HAS

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. Open to west campus students. 1 credit

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.
Introduces health professional students to basic concepts and challenges in medical ethics. Uses a framework and decision-making process to help students learn how to approach ethical dilemmas. Explores current topics in health care ethics including advance directives, assisted dying, genetics, cloning, transplants, confidentiality, informed consent, and professional conduct. 1 credit

HAS 350 Introduction to Statistics

Discusses elements of biostatistics, graphs and tables, descriptive statistics, probability, populations of samples, normal distribution, hypothesis testing, and computers. 2 credits

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. 1 credit

HAS 355 Integrative Systems Physiology

Introduces students to human integrative systems physiology. Includes exposure to physiological control systems, emphasizes in detail each organ system and how homeostasis is maintained. Includes membrane, muscle, central and peripheral nervous system, cardiovascular, respiratory, renal, gastrointestinal, and endocrine physiology. Presents material and incorporates select examples of pathophysiology to emphasize relevance of material. Students will solidify an understanding of the structures and functions across all systems in the human body under normal conditions and select pathophysiology. 4 credits

HAS 332 Management Concepts for Health Professionals

Addresses the operations within healthcare institutions from macro to micro levels of management. Analyzes the philosophy and significant occurrences affecting healthcare operations in the past, present and future. The divisions within healthcare 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, costcontainment, decision making and total quality management. Emphasizes hospital operations and presents nursing home and community healthcare center operations. Open to CLS and RC students only. 1 credit

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 program director in the School of Health Technology and Management prior to registration. 1-3 credits

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 program director in the School of Health Technology and Management prior to registration. 1-6 credits

HAS 490 Research Tutorial

An original research project is conducted. Prerequisite: HAS 351 2 credits

HAS 503 Issues, Trends and Challenges in Nutrition

Analyzes and integrates current trends and issues in food and nutrition. Examines evidence regarding efficacy, safety and cost of new products. Discusses applications in practical professional settings. 3 credits, Letter graded (A, A-, B+, etc.)

HAS 504 Survey of Nutrition Practices

Prepares students to function effectively in area of nutrition in public health, food service, and health care settings. Emphasizes critical thinking skills, problem solving, continuous quality improvement processes, and management techniques. Fosters skill development through case studies, problem based learning scenarios, and simulations. 3 credits, Letter graded (A, A-, B+, etc.)

HAS 506 Food Nutrition Policies: Cultural, Behavioral, Social Aspects

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. 3 credits, 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 with an emphasis placed on clinical dietetics. 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 food 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.
3 credits, 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.
3 credits, 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.
3 credits, 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 interactions between people with disabilities and health care providers in terms of miscommunication, prejudice, communication, and health promotion. Examines the larger systems that can help or hinder health promotion including structural barriers of poverty, lack of insurance, inaccessibility of services, architectural barriers and lack of transportation. Addresses particular health care challenges faced by women and ethnic, racial, and sexual minorities who have disabilities. 3 credits, Letter graded (A, A-, B+, etc.)

HAS 521 Disability and Health Promotion

Examines the life experiences of people with disabilities from a disability studies perspective. Includes a study of the history, sociology, and psychology of disability, and looks at interactions between people with disabilities and health care providers in terms of miscommunication, prejudice, communication, and health promotion. Explores the larger systems that can help or hinder health promotion including structural barriers of poverty, lack of insurance, inaccessibility of services, architectural barriers and lack of transportation. Addresses particular health care challenges faced by women and ethnic, racial, and sexual minorities who have disabilities. 3 credits, 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.
3 credits, Letter graded (A, A-, B+, etc.)

HAS 526 Community Mental Health Programs

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. 3 credits, 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. 3 credits, 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 that 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.

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

HAS 529 Community Health 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.

3 credits, 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.

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

HAS 531 Health Care Delivery Systems

Provides overview of health care delivery enterprise in the United States and the various forces that shape this enterprise. Discusses dynamics of care, evolving public and private regulations and guidelines, and rapid technological advances.

3 credits, 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.

3 credits, 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.

3 credits, 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.

3 credits, 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.

3 credits, 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.

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

HAS 539 Strategic Planning for Health Programs, Facilities and Networks

Conveys to prospective and current 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.

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

HAS 541 Strategic Management in Health Care

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.

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

HAS 542 The Impact of the Political Setting on 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.

3 credits, 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.

3 credits, 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.

3 credits, 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. Cannot receive credit for this course and HAP 545 or HAY 545.

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

HAS 546 Stem Cells and Society

Provides a multifaceted and interdisciplinary look at issues surrounding stem cell research, taking into consideration the basic science, history, public policy (both federal and state), economics, and ethics. Students will gain an understanding of how each of these disciplines affects the complete issue. Presents the basic fundamental concepts underlying the research, what factors characterize different types of stem cells (adult, embryonic, ips) and how they pertain to a quest for disease cures. Investigates policies and legislative underpinnings of stem cell research that have shaped the course of stem cell research in the United States. Explores the ethical concerns surrounding stem cell research and the related impact on policy.

3 credits, 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.

3 credits, 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.

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

HAS 551 Research Design and Proposal Writing

This course is designed to acquaint students with the research and proposal writing process in preparation for a practicum or research project, including: identifying a problem within an area of health care management, policy, and/or practice; formulating a research question or hypothesis; reviewing and critically appraising relevant literature; designing a realistic study and selecting appropriate scientific methods to answer the proposed question (or test the hypothesis); articulating the major strengths and limitations of the proposed study; considering expected results and potential impact of study findings on health care management, policy, and/or practice; and communicating the proposal in a well-referenced and clearly written plan. Prerequisite: HAS 550

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

HAS 553 Research Methods and Design

Presents process and skills needed to develop a research study, formulate a research question or hypothesis, conduct literature searches, use library resources, critically appraise scientific literature, select an appropriate research design and methods for data collection, and consider the protection of human subjects and health information, including policies and procedures of the Committee on Research Involving Human Subjects (CORIHS). Prerequisite: HAS 550. Permission of instructor required. Cannot receive credit for this course and HAS 551.

3 credits, 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.

3 credits, Letter graded (A, A-, B+, etc.)
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<tr>
<td>HAS 555</td>
<td>Essentials of Health Care Sales and Marketing</td>
<td>Introduces strategic selling methodology and looks at the health care buying decision. Focuses on the health care customer's needs, both organizational and personal. The resultant analysis will allow the student to better determine how to add value to the health care customer's organization and create a long-term business relationship that benefits all parties. Focuses on the key principles, methodologies and strategies of marketing, and expands these basic concepts to include an analysis of the health care value chain; trading relationships between the producers (manufacturers) of the health care products, purchasers of those products (groups purchasing organizations, wholesalers/distributors), and health care providers (hospital customers) that are end users of these products. 3 credits, Letter graded (A, A-, B+, etc.)</td>
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<tr>
<td>HAS 556</td>
<td>Foundations of Health Care Quality Management</td>
<td>Introduces health care quality management methodologies and examines their impact on health care productivity, quality, and patient safety. Utilizes concepts of performance improvement and continuous process improvement to improve product and service quality and competitiveness. Presents history of quality improvement in health care and application of quality concepts to improve clinical outcomes, patient safety, patient satisfaction, financial outcomes, and employee and physician satisfaction. Emphasizes importance of data usage to monitor performance improvement activities. 3 credits, Letter graded (A, A-, B+, etc.)</td>
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<td>HAS 557</td>
<td>Planning and Implementing Community Health Programs</td>
<td>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. 3 credits, Letter graded (A, A-, B+, etc.)</td>
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<tr>
<td>HAS 558</td>
<td>Epidemiology and Health Policy</td>
<td>Presents the concepts, principles and applications 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 3 credits, Letter graded (A, A-, B+, etc.)</td>
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<td>HAS 560</td>
<td>Evaluation of Community Health Initiatives</td>
<td>Prepares students to plan, implement, and utilize an evaluation of a community health initiative. Addresses basic principles and practices of evaluation, including identifying goals of a community health initiative; designing an evaluation plan that can determine if the initiative's goals are achieved; implementing an evaluation plan; interacting with stakeholders; and using evaluation results to improve performance. Students are required to design an evaluation component for the community health program developed in HAS 557. 3 credits, Letter graded (A, A-, B+, etc.)</td>
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<td>HAS 563</td>
<td>Computer Case Studies in Health Care Management</td>
<td>Examines problem solving in health care management through the application of personal computers and case studies. Prerequisite: Knowledge of spreadsheets 3 credits, Letter graded (A, A-, B+, etc.)</td>
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<td>HAS 564</td>
<td>Health Information and Communication Systems</td>
<td>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. 3 credits, Letter graded (A, A-, B+, etc.)</td>
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<td>HAS 568</td>
<td>HIV/AIDS: A Continuing Societal Challenge</td>
<td>Examines the social, psychological and medical issues of the HIV/AIDS epidemic in relation to the concerns of educators. Explores and assesses how personal values and attitudes impact on the delivery of educational programs. 3 credits, Letter graded (A, A-, B+, etc.)</td>
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<td>HAS 570</td>
<td>Business Aspects of Managed Care</td>
<td>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. 3 credits, Letter graded (A, A-, B+, etc.)</td>
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<td>HAS 571</td>
<td>Issues in Health Care Management</td>
<td>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. 3 credits, Letter graded (A, A-, B+, etc.)</td>
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<td>HAS 572</td>
<td>Ambulatory Care Management</td>
<td>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. 3 credits, Letter graded (A, A-, B+, etc.)</td>
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HAS 573  Statistical Process Control for Health Care Quality Management

Teaches health care management professional how to incorporate quantitative performance measurement into daily work routines to form the foundation for quality improvement-oriented culture. Provides strategies to gather and analyze data needed to plan, implement, monitor, and evaluate health care quality improvement initiatives. Prerequisites: HAS 556 and HAS 550 (with minimum grades of B). 3 credits, Letter graded (A, A-, B+, etc.)

HAS 574  Group Practice Management

Introduces the student to the practices and theories of Group/Physician Practice Management. Provides fundamental understanding of the financial and regulatory issues that influence today’s medical practice. Presents issues such as leadership, operations, compensation, and clinical productivity for review. 3 credits, Letter graded (A, A-, B+, etc.)

HAS 575  Long Term Care

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

HAS 576  Workplace 2020

Provides an overview of issues affecting the American workplace in the future through the year 2020. 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. 3 credits, 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. 3 credits, 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. 3 credits, Letter graded (A, A-, B+, etc.)

HAS 579  Advanced Seminar in Health Policy, Persuasion and Communication

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 about general public health topics and develop their own health policy project. 3 credits, 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, through the use of scientific data (whether from the literature or the research data book) to support an argument. Permission of instructor required. 3 credits, 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, his or her ability to apply knowledge learned in courses to the health care field. 1-6 credits, 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. 1-6 credits, 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. 1-6 credits, 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. 1-6 credits, 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.

1-3 credits, Letter graded (A, A-, B+, etc.)

**HAS 592 Special Topics**

Presents a comprehensive look at specific aspects of health policy from all relevant perspectives. Synergizes scientific, legislative and ethical points of view and how their relationship to policy formulation and implementation. Students will expand skills to effectively articulate details of the policy and develop an educated position on it. Dynamic discussion, essay writing and debate will be utilized to gauge information comprehension and opinion development.

3 credits, 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.

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

**HAS 599 Thesis Supervision**

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

4-6 credits, Letter graded (A, A-, B+, etc.)

**HAT**

**HAT 210 Introduction to Respiratory Care**

Provides an introduction to the science of respiratory care, sleep technology, and cardiac care. Examines current trends in professional practice. Offers each student the opportunity to research and present a topic concerning the contemporary practice of a respiratory therapist, polysomnographic technologist, or cardiovascular technologist. Designed for lower-division four year respiratory care and polysomnographic technology majors. This course is not eligible for the G/P/NC option. Open to west campus students.

1 credit

**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.

4 credits

**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.

2 credits

**HAT 309 Communication Skills for Health Care Professionals**

Provide the student with an understanding of the importance of effective communication by a health care professional. Through lecture, discussion, and role playing, in large and small groups, students will learn appropriate verbal, non-verbal, and written communication skills to improve interactions with patients, families, various members of the health care team, and the greater community.

2 credits

**HAT 315 Pharmacology**

Covers the basic principles that govern the use of drugs in the clinical practice of Respiratory Therapists and Sleep Technologists. Develops specific knowledge for classes of drugs, important distinctions among members of each class, and both their relation to the organ systems they affect and the diseases they treat, including drug dosages and calculations.

4 credits

**HAT 320 Cardiovascular Diagnosis and Treatment I**

Provides the basic cardiac function, practical skills of electrocardiography, diagnosis and treatment of arrhythmias, cardiac medications and noninvasive cardiac diagnostic techniques. Examines theory and practical applications of electrocardiography, exercise stress testing, and Holter monitoring. Includes in-depth study of cardiac anatomy and electrophysiology. Prerequisite: HAT 304

3 credits

**HAT 330 Pulmonary Pathology**

A comprehensive study of the etiology, diagnosis, pathogenesis, pathophysiology, treatment, and prognosis of various types of pulmonary pathologies. Prerequisite: HAT 304

3 credits

**HAT 331 Respiratory Care Techniques I**

Introduces the history and global significance of the practice of respiratory care, including the beginning skills and therapies that are utilized. Major topics include the global history that led to the creation of the profession; the global need to provide quality respiratory care; principles of infection prevention and control; a review of the basic physics of respiratory care; medical gas storage, delivery and therapy; humidity and bland aerosol administration; bedside monitoring; and lung expansion and airway clearance therapies. Laboratory sessions will provide practical experience in the clinical application of the therapeutic modalities discussed.

3 credits

**HAT 332 Respiratory Care Techniques II**
Course is second in a four part sequence. Continues the review of basic therapeutic modalities of respiratory care. Major topics include drug aerosol therapy, airway pharmacology, airway management, and blood gases. Emphasizes the clinical use of cardiopulmonary rehabilitation, alternative site care, and disease and disaster management. Prerequisite: HAT 331

**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 pathophysiologies. Prerequisite: HAT 304

**HAT 335 Medical Ethics**

Reviews professional guidelines for ethical conduct and approaches to ethical dilemmas for respiratory therapists and polysomnographic technologists. Explores ethical issues including the distribution of resources and rationing of services. Examines health care services in the United States and the rights of the U.S. citizen under federal and state health care laws. Discusses physician assisted suicide; terminal weaning; brain death; genetics; cloning and euthanasia; advance directives; confidentiality; informed consent; patient rights; professional conduct; and the legal issues that impact healthcare practice in the United States. 2 credits

**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

**HAT 350 Basic Respiratory Care Clinical**

An introduction to the clinical application of basic respiratory procedures such as oxygen administration, aerosol therapy, positive airway pressure therapy, arterial punctures and other monitoring and diagnostic procedures. Prerequisite: HAT 331 and HAT 332

**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

**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. 2 credits

**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

**HAT 415 Respiratory Care Techniques IV**

Introduces advanced concepts, equipment and procedures used in adult, pediatric and neonatal critical care. Provides students with decision making skills for initiation and management of advanced ventilator technology. Explores functions, clinical applications and troubleshooting of selected advanced instrumentation. Reviews equipment limitations, quality assurance, equipment maintenance and cost/benefit analysis where applicable. Prerequisites: HAT 320, HAT 332, HAT 420, HAT 431 and HAT 432

**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

**HAT 431 Respiratory Care Techniques III**

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: Admission to upper division Respiratory Care Program; HAT 332

**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. Gives students the knowledge and skills needed to perform neonatal resuscitation. Prerequisite: HAT 332

**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

5 credits
HAT 451 Perinatal Care Clinical
Develops clinical skills in the management of pediatric and neonatal critical care patients. Includes specialized learning experiences in therapeutic modalities, mechanical ventilation, and emphasizes specific technical procedures that differ from the adult patient. Prerequisite: HAT 432
4 credits

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 required of an entry-level polysomnographic technologist. Prerequisites: HAT 331
3 credits

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 monitoring techniques, documentation, professional issues, therapeutic interventions, and patient-technologist interactions related to polysomnographic technology. Prerequisite: HAT 470
2 credits

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: HAT 470
2 credits

HAT 476 Polysomnographic Technology II Clinical
Provides clinical training in advanced aspects of polysomnographic technology. Familiarizes students with practical aspects of therapeutic intervention, sleep scoring equipment troubleshooting and artifact recognition. Prerequisites: HAT 470; HAT 471 and HAT 475
2 credits

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
2 credits

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 and HAT 332
2 credits

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.
1-6 credits

HAT 494 Respiratory Care Board Review
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. Prerequisites: Admission to upper division Respiratory Care Program; HAT 420, HAT 431 and HAT 432
1 credit

HAU 500 Financing Healthcare Organizations
Focuses on historic and current issues that impact US healthcare organizations with a primary focus on how health care is delivered, organized and financed. Emphasizes the impact of financing on safety, quality, and the management of risk within healthcare organizations, especially the provider and payment sectors of healthcare. Explores the transformation of healthcare reimbursement from fee-for-service to value-based purchasing, pay-for-performance, and other evolving changes in the financing of healthcare.
3 credits, Letter graded (A, A-, B+, etc.)

HAU 501 Patient Safety and the Management of Risk
3 credits, Letter graded (A, A-, B+, etc.)

HAU 502 Patient Safety and Health Law
Provides an in-depth analysis of the intersection of federal and state laws with an emphasis on how legislation and policy are transforming the US health care industry. Students will analyze trends in national and state legislation and
evaluate the effects of legislation and policy on clinical patient care, medical malpractice, the creation of patient safety organizations, apology statutes and disclosure of unanticipated outcomes.

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

HAU 503 Error Science, Human Factors and Patient Safety

Explores best practices from error science and human factors science that can be applied to the healthcare delivery environment to improve quality and reduce medical and human error. Examines various error science theory and human factors (such as fatigue) that contribute to medical errors and how human factors principles are key causes of most adverse events in healthcare. Studies failure mode effects analysis and root cause analysis principles and tools as strategies to reduce and respond to medical error. Explores systems and process analysis as mechanisms to improve patient safety.

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

HAU 504 Crew Resource Management, Team Performance, and Communication

Explores evidence-based high-performing team strategies and communication strategies utilized by aviation, nuclear power and other high reliability organizations (HROs) and analyzes the methods to apply such skills to the health care delivery system. Explores how team building and communication techniques are necessary components to create a patient centered, high quality, patient safety culture within their respective institutions. Explores how continuous quality improvement techniques are utilized to benchmark and assess patient safety.

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

HAU 505 Quality Improvement and Safety

Provides a foundation of skills in Total Quality Management (TQM) and Continuous Quality Improvement (CQI). Students will learn how to identify problems, collect data, recommend improvements, and use tools and techniques required in CQI. Explores how technological advances have impacted the quality movement. Examines how CQI techniques are utilized to benchmark quality and foster patient safety.

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

HAU 506 Accreditation, Regulations, and National Patient Safety Goals

Explores various accreditation requirements that health care professionals and health care organizations must meet. Focuses on the Joint Commission’s National Patient Safety Goals by analyzing the purposes for each goal and exploring mechanisms for implementation and measurements of success in meeting the elements of performance.

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

HAU 507 Planning, Evaluation, and Assessment of Patient Safety Initiatives

Provides a strong foundation for program development of patient safety interventions. Utilizing the PRECEDE-PROCEED framework, students will explore techniques and strategies used for designing, implementing, and evaluating patient safety programs. Topics will include the development of programmatic goals and objectives, assessment, selection of methods and strategies, pre-testing of program materials, adoption and implementation plans, data collection, and evaluation indicators. Recommended: HAU 508, HAU 509

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

HAU 508 Statistics for Patient Safety Professionals

Quantitative data analysis techniques utilized in patient safety research are explored. Topics include descriptive, inferential, and correlational statistics. Students learn to use available computer programs to conduct a variety of descriptive, inferential, and correlational statistical tests.

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

HAU 509 Research Design and Methodology for the Patient Safety Professional

Provides an in-depth overview of quantitative, qualitative, and mixed-methods research designs and methodologies. The student will analyze and evaluate the philosophical foundations, the characteristics, strengths, and limitations of quantitative, qualitative, and mixed methods research designs and methodologies.

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

HAU 510 Advanced Practice for Risk and Safety Officers

Students will analyze advanced practice methods and tools utilized to implement and measure patient safety initiatives, and identify and mitigate error and risk within the healthcare context. Explores issues such as occupational and environmental hazard risk reduction, enterprise risk mitigation planning, medical staff credentialing, and the role of the Governing Board. Prerequisites: HAU 501, HAU 503, HAU 508.

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

HAU 584 Capstone Project

The capstone is designed to allow students to select an area of patient safety, quality, or risk management and demonstrate mastery of the curriculum. This can be accomplished by practicum project or internship experience. The capstone will require students to demonstrate scholarly activity, critical thinking, evidence-based practice, leadership, and professionalism; while affirming the importance of ethical behavior, human diversity, and just culture within a team approach to patient-centered, high quality and safe delivery of health care. The students are expected to put in 45 hours per credit of capstone. Course registration and capstone project is subject to departmental approval. Prerequisite: Departmental approval required for this course.

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

HAU 594 Capstone Research-Based
Designed to allow students to select an area of patient safety, quality, or risk management and conduct original research. This course encompasses the development of the IRB application through the writing of the graduate thesis. Throughout this course, the student will work with their committee to complete the research project. Prerequisite: departmental approval, HAU 508 and HAU 509. 3 credits, Letter graded (A, A-, B+, etc.)

HAX

HAX 600 Doctoral Seminar
Provides a venue for faculty and doctoral students to discuss all aspects of their research. Researchers will present different branches of translational science and discuss linkage between research agendas. Provides opportunity for data to be viewed and analyzed by investigators with different perspectives and tools for analysis. Offered in the Fall, 0 credit, S/U grading

HAX 602 Frameworks, Models and Classification Systems in Health and Rehabilitation Sciences
Examines the dynamic interaction between health, disability, and community and contextual factors as identified using different frameworks and models. These frameworks and models will be expounded to recognize the influence of each solely and collectively in terms of health and rehabilitation research, disability studies, and behavioral and community health research. Explores parallels and divergences in approaches with particular attention to analyzing how students in varied concentrations can work together to engage in meaningful translational research within the domains of historical and present-day society and research paradigms. 3 credits, Letter graded (A, A-, B+, etc.)

HAX 605 Research Ethics
Presents a broad overview of research ethics and regulation. Conveys the moral bases of scientific ethics, the historical evolution of social science and biomedical research ethics, and the development, implementation and limitations of U.S. human subjects regulations. Includes ethics and morality in science; science in society; scientific integrity; misconduct; whistle blowing; conflicts of interest; collegiality; publication and authorship; peer review; history and development of human experimentation ethics and regulations (HHS, FDA); Institutional Review Boards; informed consent, waivers, vulnerable populations; privacy and confidentiality of records; epidemiology; and research using animal subjects. 3 credits, Letter graded (A, A-, B+, etc.)

HAX 620 Rehabilitation and Disability
Introduces the Science of Rehabilitation and the Science of Disability. Presents models of rehabilitation and disability research and discusses controversies and commonalities between these areas. Forms the groundwork of future coursework in rehabilitation and movement sciences. 3 credits, Letter graded (A, A-, B+, etc.)

HAX 626 Outcome Measurement in Rehabilitation Research
Introduces outcome measures relating to impairments, functional limitations and disability, general health status, and patient/client satisfaction. These outcome measures are used to guide research outcomes. Explores measurement properties and discusses strategies to appropriately assess and select various outcome measurement scales. Critical appraisal of the literature will provide the basis for making research methodological decisions regarding selection of the most effective outcome measures. 3 credits, Letter graded (A, A-, B+, etc.)

HAX 629 Evidence Based Pediatric Rehabilitation Research
Provides students an opportunity to develop an overview of issues related to the health of America's children and adolescents. Emphasizes chronic disease and disability, nutrition, fitness, educational accommodations, and trends in long term health services and health policy. Explores the growing need for evidence based practice and outcomes assessment necessary for the development of strategies for optimal function of children with disease/disability and their families. Students will review and analyze evidence for interventions for a specific pathology/disability. 3 credits, Letter graded (A, A-, B+, etc.)

HAX 630 Exercise Physiology and Physical Activity
Presents the key elements of exercise physiology and instructs students in measurement techniques for the assessment of exercise capacity and physical activity. Reviews normal physiology of the cardiopulmonary system and presents normal immediate response to exercise, and long-term effects of exercise in the healthy individual. Explores foodstuffs for energy production, metabolic pathways for production of ATP, and energy systems used in aerobic and anaerobic activities. Principles of physical activity assessment and body composition and examines qualitative and quantitative measurement techniques across the lifespan and in disability. Assimilates, via lab manual, literature reviews of articles addressing measurement. 3 credits, Letter graded (A, A-, B+, etc.)

HAX 631 Electro/Neurophysiology: Topics for Rehabilitation Research
Introduces basic methodology of clinical electrophysiological studies of EEG, EMG, nerve conduction velocity studies (NCV), H-reflex and evoked potentials. Interpretation of these measures provides access to the physiological basis of disability in peripheral or central nerve damage and potentials for recovery. Examines the interventions using peripheral and central electrical stimulation modalities on muscle, bone, cardiovascular and autonomic systems. Includes lab activities of selected modalities such as E-stim, FES, TMS, EEG, EMG, NCV, and H-reflex. 3 credits, Letter graded (A, A-, B+, etc.)

HAX 632 Teaching and Learning
This course will introduce students to adult learning principles and strategies for effective teaching of cognitive psychomotor and affective skills and behaviors in academia. Individual teaching/learning philosophical orientations, characteristics of the adult learner, learning styles, self-directed learning, and reflective practice will be explored.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 634 Motor Learning and Motor Control

This course will introduce the various theories underlying human motor control. Students will actively synthesize and analyze current theory and research related to motor control and skill acquisition through examination of relevant literature. This course places emphasis on determining the implications of this work for future research, educational and/ or clinical practice. Includes early and contemporary theory, skill acquisition facilitation, practice, feedback, transfer of training, modeling, part vs whole training, imagery, implicit learning, explicit learning and memory systems.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 635 Biomechanics and Movement I

Introduces students to principles and interrelationships of biomechanics and movement. Includes physical biomechanics of the extremities as a foundation from which to apply biomechanical principles. Involves learning to use mathematical approaches to solving static problems and lay the groundwork for solving dynamic biomechanical problems. Reinforces biomechanical theoretical concepts and mathematical models with lab experiments that involve the manipulation of 3D kinematic, kinetic and EMG data.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 636 Biomechanics of the Musculoskeletal System and Movement II

Provides advanced concepts of kinetics in the field of biomechanics. Explores biomechanical concepts during lecture and reinforces those applications with associated lab experiments. Provides viscoelastic characteristics of biological tissues as a foundation applied to human motion. Includes mathematical models of the musculoskeletal system and analysis of the dynamics of human motion. Collection and analysis of gait and other movement kinematics, kinetics and muscle activation by electromyography (EMG) are components of lab activities.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 637 Orthopedic and Anatomical Principles I

Provides advanced concepts of orthopedics and anatomy. Focuses on best evidence of examination, evaluation, diagnosis, prognosis, and procedures used for a variety of orthopedic conditions of the spine and pelvis. Requires active engagement in problem solving by identifying research problems, searching for evidence, and evaluating and synthesizing the evidence to answer research questions. Includes examination of select advanced procedures and principles to enhance research investigations.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 638 Orthopedic and Anatomical Principles II

Continues and expands on advanced concepts of orthoped interventional research. Focuses on best evidence of examination, evaluation, diagnosis, prognosis, and intervention of orthopedic conditions of the extremities. Requires active engagement in problem solving by identifying research problems, searching for evidence, and evaluating and synthesizing the evidence to answer research questions. Student directed pilot study will incorporate knowledge of select advanced techniques and technologies.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 639 Technology and Medical Imaging in Rehabilitation

Examines a range of medical imaging techniques available for use and interpretation in rehabilitation research. Includes radiographs, fluoroscopy, MRI, fMRI, CT, qCT, MEG, TMS and diagnostic US. Synthesizes the technologies and their limitations, the methods of capture and interpretation. Reviews evidence supporting or refuting the sensitivity of these techniques in determining outcomes in rehabilitation.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 641 Community Mental Health

Explores the policies and programs that address mental health needs of individuals with a community health focus. Students will apply models of behavior and health to explore topics of mental health including stigma, marginalization, self-determination. Discusses challenges to service provision. Focuses on the ethics of research with this population as a central theme.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 642 Participation and Health in Pediatric and Educational Settings

Explores policies and programs that inform pediatric services and community based research. Focuses on pediatric programs that influence health and community participation. Includes programs that support health, wellness, and community participation as well as those influenced by the Individuals with Disabilities Education Improvement Act (IDEA) that supports children with disabilities from Birth to 21 years. Prerequisites: 24 credits of HAX core courses or permission of Instructor.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 643 Healthcare Systems and Policy Analysis

Provides students with an overview of the US healthcare system and major health policy challenges we face. Explores the history and state of the US healthcare system, and circumstances that have given rise to current problems such as employer-based health insurance, challenges in access to and quality of care, and the rising costs associated with the US healthcare model. Discusses ways to improve upon the system, importantly including the Affordable Care Act, and how this legislation was enacted with close attention paid to the policymaking process, roles of political actors, and the importance of policy analysis.
HAX 644 Ethics, Health Disparities and Social Justice

Examines aspects of inequality and health status as an injustice within the context of ethical theories (utilitarian, libertarian, deontological, equilateral). Determines the influence on case studies of health disparities and inequalities. Discusses cases such as global and U.S. racial, class and gender disparities and in developing countries. Presents ethical issues relative to different methods of measuring health inequalities and related policies.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 645 Organizational Theory, Management and Leadership

Examines theoretical and conceptual framework for understanding leadership and management styles of health and human services organizations and how they operate in a broader community. Identifies and applies strategic models to analyze organizational problems, organizational behaviors and processes, formulate strategic solutions, and make sound decisions. This knowledge is critical for the behavioral and community health field to understand how individuals influence and are influenced by organizations.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 646 Social Behavior and Community Health Change

Examines the nature of the behavior that takes place within social systems and how to effectuate change in these systems. Analysis of behavior and possibilities for change will be placed in the context of health and public health questions and will draw upon theories of organizational behavior, leadership, and mechanisms for action.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 647 Policies and Ethics in Behavioral and Community Health

Explores health care policies of the US health care system and the influence on public health and programs in behavior and community health. Includes access and utilization of health care, barriers to care, prevention programs, and health disparities and ethics. Addresses the perspectives of the consumer, provider and the institution.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 653 Research Methods: Design and Statistics

This course presents process and skills needed to develop independent research studies, including but not limited to, formulating a research question or hypothesis, conducting literature searches, critically appraising scientific literature, and selecting appropriate research designs and methods. This information will be presented in the context of protecting human subjects and health information based on the policies and procedures of the Committee on Research Involving Human Subjects (CORIHS) and IACUC.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 656 Qualitative Research

Students will learn the basic principles and techniques of effective analysis and interpretation of the merits of qualitative data. Examines how qualitative research captures complex phenomena that span the international classification of function (ICF) and impact on quality of life, illness/injury experience and recovery. Students will learn the strengths and limitations of qualitative analysis and how it complements quantitative analysis. Emphasizes several methods to represent data, such as the mixed method approach, and students will apply a range of analysis techniques through research exercises.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 663 Disability, Occupation and Community

Inspired by disability justice social movements in the US and abroad, this course presents politically engaged critical approaches to disability that intersect community organizations, the arts and academic fields including occupational therapy, disability studies and anthropology. Broader than a medical category, disability identity recognizes the political and economic dimensions of disability inequity as it related to other forms of inequality and disadvantage. Themes include all permutations of the concept of occup; disability justice/decolonization; participation and training for collaborations; marginalization and minoritization; technology; struggle, creativity, and change.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 664 Conceptual Foundations of Disability Studies 1890s-1990s

Present conceptual foundations of disability studies beginning with the 19th and early 20th century theories and scholarships. Theorists from the 1960s and 1970s who influenced the theoretical development of the new field of disability studies will be discussed. The course will explore foundational disability studies scholarship of the 1980s and 1990s as the field established itself first in the social sciences and then the humanities.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 665 Disability, Participation and Justice

Explores concepts of “Participation” and “Justice” as they relate to disability experience. Introduces research strategies, participatory methods and methodologies for disability studies research in the applied social and health sciences. Discusses ethical issues in disability research and what it means to disabled people in daily life. Examines social analysis, healthcare discourse, and research on the evolution of healthcare practices, cultural beliefs, and social structures influencing the treatments, services, and opportunities available to disabled people in the United States and internationally.
3 credits, Letter graded (A, A-, B+, etc.)

HAX 667 Disability Studies Language, Narrative and Rhetoric
Focuses on how language and rhetoric frame how disability is perceived, experienced, and treated. Included critical and rhetorical analysis of professional discourses as well as personal disability narratives and memoirs. The society for Disability Studies, an interdisciplinary organization, says in its mission statement, disability is a key aspect of human experience. So is language. This course explores the interdisciplinary nature of disability studies and the roles language and rhetoric play in representations of disability. Some questions to be explored include: In what ways do clinical or professional discourses and personal narratives reveal experience of power and powerlessness? How is the bodily experience of disability described in professional contexts as compared to personal narratives? How does description and perception influence the practice of professionals and quality of life for people with disabilities? What assumptions about disability are revealed through rhetorical analysis? These questions will frame our attention to representations of disability in a variety of texts: academic, professional, literary, clinical, personal, and visual. Not to be taken for credit with ESL 592

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

HAX 668 Emerging Topics in Disability Studies

Focuses on the intersections of disability with other emerging area studies such as gender, class, sexuality, race and global studies. Encompass study of different emerging disciplinary areas of disability studies in the social sciences, health sciences, humanities, business, and technology. Explores the connections between disability activism, art, and scholarship in the 21 century. Traces emerging regional distinctions in disability studies research and scholarship, especially between Northern and Southern Countries

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

HAX 669 Disability and Health in Local and Global Contexts

Critically examines the experiences of people with disabilities in a local and global context and examines the connections between the two contexts. Utilizes policy documents, ethnographies, memoirs, program evaluations, and multimedia and provides the tools to critically evaluate local and global disability experiences as well as programs and interventions.

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

HAX 690 Independent Study in Health and Rehabilitation Sciences

Independent study proposals in health and rehabilitation sciences. Approval of independent study proposal and credit hours required prior to registration.

1-3 credits, Letter graded (A, A-, B+, etc.)

HAX 693 Directed Readings

Provides faculty directed readings and guided discussion to synthesize selected content related to the current course curriculum and/or to the students' research interests. Through the guided readings, the students will learn foundational and advanced theoretical constructs that will be important underpinnings of their future studies and doctoral research. Specifically, studies may focus in the concentration areas of rehabilitation and movement science, disability studies or behavioral and community health. A critical analysis of readings may include theoretical constructs, methodologies, and/or interpretation of results. The course will include analytical writings and a summative paper.

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

HAX 699 Dissertation Research On Campus

Dissertation research under direction of advisor. Prerequisite: Advancement to candidacy (G5). Major portion of research must take place on SBU campus.

1-9 credits, S/U grading

HAX 700 Dissertation Research Off Campus- Domestic

Dissertation research under direction of an advisor. Prerequisite: Advancement to candidacy (G5). Major portion of research will take place off-campus, but in the United States and/or U.S. provinces. All international students must enroll in one of the graduate student insurance plans and should be advised by an International Advisor.

1-9 credits, S/U grading

HAX 701 Dissertation Research Off Campus International

Dissertation research under direction of an advisor. Prerequisite: Must be advanced to candidacy (G5). Major portion of research will take place outside of the United States and/or U.S. provinces. Domestic students have the option of the health plan and may also enroll in MEDEX. International students who are in their home country are not covered by mandatory health plan and must contact the Insurance Office for the insurance charge to be removed. International students who are not in their home country are charged for the mandatory health insurance. If they are to be covered by another insurance plan they must file a waiver by the second week of classes. The charge will only be removed if other plan is deemed comparable. All international students must receive clearance from an International Advisor.

1-9 credits, S/U grading

HAY 500 Neuroscience for Physical Therapy

Presents neuroscience in a systems approach and integrates general principles of organization and function of the autonomic, peripheral and central nervous system's approach to neuroscience. The anatomy of a system will be followed with its physiology, pathophysiology and clinical relevance to the physical therapist. Clinical topics include neurological testing, control of posture and balance, pain, muscle tone and spasticity, feedback vs. feedforward control, reflex versus voluntary control, control of reaching and locomotion, perception and learning. Prerequisites: First Year Summer Courses

4 credits, Letter graded (A, A-, B+, etc.)
HAY 501 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 social/cultural/environmental influences. The coursework covers developmental issues during prenatal, infant, child, adolescent, adult and geriatric time periods. Prerequisites: First Year Courses 4 credits, 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. Prerequisites: First Year and Second Year Summer Courses 1 credit, 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. Prerequisites: Second Year Fall Courses. 1 credit, Letter graded (A, A-, B+, etc.)

HAY 504 Adult Neurological Assessment I

Prepares students to examine, assess, establish problem lists, and determine and write appropriate goals for individuals with neurological disorders. Prepares second year physical therapy students to assess and begin basic evaluation skills as clinical decision-making and differential physical therapy diagnosis, prognosis and intervention are introduced in the framework of musculoskeletal dysfunction. Emphasizes the study of atypical movement patterns in children. Presents developmental and long-term effects of neuromuscular and musculoskeletal dysfunction as they relate to surgical and non-surgical musculoskeletal conditions. Prerequisite: Second Year Fall Courses 3.5 credits, Letter graded (A, A-, B+, etc.)

HAY 505 Adult Neurological Assessment II

Prepares students to examine, assess, establish problem lists, and determine and write appropriate goals for individuals with neurological disorders. Prepares second year physical therapy students to assess and begin basic evaluation skills as clinical decision-making and differential physical therapy diagnosis, prognosis and intervention are introduced in the framework of musculoskeletal dysfunction. Emphasizes the study of atypical movement patterns in children. Presents developmental and long-term effects of neuromuscular and musculoskeletal dysfunction as they relate to surgical and non-surgical musculoskeletal conditions. Prerequisite: Second Year Fall Courses 3.5 credits, Letter graded (A, A-, B+, etc.)

HAY 506 Adult Neurological Interventions

Examines the impact of adult neurological conditions on activities identified by an individual as essential to support physical, social and psychological well being and create a personal sense of meaningful life. Students will continue with practice of synthesis of examination data during the evaluation process. Emphasizes the development and implementation of appropriate intervention strategies based on best evidence available for peoples with neurological or neuromuscular disorders. Prerequisites: Second Year Fall Courses 4 credits, Letter graded (A, A-, B+, etc.)

HAY 507 Orthopedic Physical Therapy Ia

Introduces concepts of musculoskeletal concepts within patient/client management model. 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. Explores functional anatomy, including the osteokinematics, arthrokineanitcs, myology and neurology of the lower extremities as they relate to surgical and non-surgical musculoskeletal conditions. Prerequisite: First Year Courses 2 credits, Letter graded (A, A-, B+, etc.)

HAY 508 Orthopedic Physical Therapy IIa

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, arthrokineanitcs, myology and neurology of the trunk and upper extremities are discussed as they relate to surgical and non-surgical musculoskeletal conditions. Prerequisite: Second Year Fall Courses 3.5 credits, Letter graded (A, A-, B+, etc.)

HAY 509 Pediatric Physical Therapy

Introduces the concepts and skills of pediatric physical therapy. Emphasizes the study of atypical movement patterns in children. Presents developmental and long-term effects of neuromuscular and musculoskeletal dysfunction as they relate to surgical and non-surgical musculoskeletal conditions. Prerequisite: Second Year Fall Courses 3 credits, Letter graded (A, A-, B+, etc.)
to movement. Students learn examination and interventions for subtle and complex movement dysfunctions resulting from a variety of musculoskeletal and neuromuscular diagnoses, conditions, and syndromes including but not limited to preterm birth, torticollis, developmental hip dysplasia, OBPI, cerebral palsy, Down syndrome, autism, developmental coordination disorder (DCD), Spina Bililda and Duchenne Muscular Dystrophy. Explores strategies for working with children presenting at the opposite ends of functional abilities (severe/multipe vs minimal handicapping conditions. Addresses the role of the physical therapist during transitions between delivery settings. Prerequisite: Second Year Fall Courses 5 credits, Letter graded (A, A-, B+, etc.)

HAY 510 Cardiopulmonary Rehabilitation

Utilizes the patient-client management model. Spans in-patient, out-patient rehabilitation and home care settings. Includes interpretation of electrocardiograms and grades exercise tests, and chest physical therapy techniques to mobilize secretions. Explores exercise prescription for aerobic endurance training for individuals with cardiac and pulmonary disease and the use of appliances in elderly patients with cardiac and pulmonary disease. Emphasizes the use of physical examination findings that direct chest physical therapy interventions, exercise prescription, and a total plan of care. Prerequisites: Second Year Courses 4 credits, 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. Principals 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 utilizes prosthetic or orthotic devises. 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: First Year Courses and Second Year Summer Courses 4 credits, Letter graded (A, A-, B+, etc.)

HAY 513 Orthopedic Physical Therapy Iib

A continuation and application of HAY 507. Explores concepts of musculoskeletal concepts within patient/client management model. 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 general skills to various neuromusculoskeletal dysfunctions of the lower extremity. Explores functional anatomy, including the osteokinematics, arthokinematics, mycology and neurology of the lower extremities as they relate to surgical and nonsurgical musculoskeletal conditions. Prerequisites: Second Year Summer Courses 1.5 credits, Letter graded (A, A-, B+, etc.)

HAY 515 Foundations of Kinesiology

Explores the essential topics of Kinesiology and establishes a basis for future study of applied kinesiology. Introduces the study of normal human movement including topics such as movement description, muscle function, and biomechanics. 1 credit, 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. Prerequisites: First Year Summer Courses 1 credit, Letter graded (A, A-, B+, etc.)

HAY 518 Foundations of Exercise and Movement in PT

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. Prerequisites: First Year Summer Courses 3.5 credits, 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. Prerequisites: First Year Summer Courses 5 credits, 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. Considers 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 loads 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. Students analyze a movement biomechanically using appropriate mathematical formulas and analyze and critique relevant quantitative information from the literature.
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. Prerequisites: Second Year Courses
3 credits, 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. Prerequisites: Second Year Courses
3 credits, Letter graded (A, A-, B+, etc.)

HAY 526 Clinical Medicine and Pharmacology I

Provides a foundation in medicine and differential diagnosis. Introduces the Nagi's model of disablement and the International Classification of Functioning, Disability and Health (ICF), the Patient/Client Management model and outcomes management that guide the process of clinical decision-making. Principles of pharmacology, medical imaging and laboratory diagnostic testing will be integrated 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 will be explored, focusing on epidemiology, pathology, histology, etiology, as well as primary and secondary clinical characteristics. Medical and surgical management will be discussed and integrated to formulate appropriate intervention indications, precautions and contraindications. Prerequisites: First Year Summer Courses
3.5 credits, Letter graded (A, A-, B+, etc.)

HAY 527 Principles of Inpatient Care

Emphasizes use of the patient-client management model focused on the acute care in-hospital setting and the acute rehabilitation and sub-acute rehabilitation settings. Includes fundamental skills of chart review and documentation; body mechanics; examination techniques; turning and positioning; bed mobility; transfer training; ambulation training; wheelchair management; deep breathing exercises; and discharge planning. Discusses special populations relevant to the in-patient environment. Includes post-operative orthopedic patients; patients with acute neurological disorders and acute cardiothoracic disorders; and pediatric, geriatric, and general medicine patients. Designed to prepare entry level physical therapy students to evaluate and treat patients during their first clinical affiliation. Prerequisites: First Year Fall Courses
4 credits, Letter graded (A, A-, B+, etc.)

HAY 528 Clinical Medicine and Pharmacology II

This course continues to build a foundation in medicine and differential diagnosis. Utilize the concepts of evidence-based practice, ICF and Nagi's model of disablement, and the Patient/Client Management model as frameworks for clinical decision-making. Presents in-depth exploration of frequently encountered pathologies and injuries across the life span. Presents epidemiology, pathophysiology, etiology, clinical characteristics with subsequent medical and surgical management of each pathology/injury. Students are required to apply knowledge of pharmacology, diagnostic radiology and laboratory testing into safe and effective patient management through clinical case study exercises. Focuses on the formulation of appropriate rehabilitation intervention indications, precautions and contraindications. Students will continue to build a repertoire of medical terminology, medical chart abbreviations and clinical outcome measures. Proficiency is expected with an actual medical record review and analysis, and the synthesis of an appropriate patient/client management plan consistent with the Guide to Physical Therapist Practice. Prerequisites: First Year Fall Courses
4 credits, Letter graded (A, A-, B+, etc.)

HAY 529 Principles in Pharmacology

Examines the general principles of pharmacology including pharmacokinetics, pharmacodynamics and toxicology of common drugs used in clinical medicine. Explores implications of the use of pharmacological agents for the central nervous, cardiovascular, pulmonary, neuromusculoskeletal, and endocrine systems, as well as chemotherapeutics, as it relates to physical therapy patient/client management across the lifespan.
4 credits, 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.
3 credits, Letter graded (A, A-, B+, etc.)

HAY 531 Motor Learning
Synthesizes and analyzes current theory and research related to skill acquisition through examination of historical and current literature. Places emphasis on determining the implications of this work for future research, educational and/or clinical practice. Includes early and contemporary theory, skill acquisition facilitation, practice, feedback, transfer of training, modeling, part vs. whole training, imagery, implicit learning, explicit learning, and memory systems.

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

HAY 533 Implicit vs Explicit Learning
Explores memory systems active in implicit and explicit motor learning. Critically evaluates and integrates current research related to implicit and explicit learning. Research will include developmental and neuropsychological approaches to learning for rehabilitation. Students will determine the usefulness of the methodology, task design and the results of each study.

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

HAY 534 Motor Learning and Motor Control
Establishes a context for the major explanatory concepts applied to the issues of coordination and skill and learning. Foundational material from Neuroscience will support the application and theory addressed throughout the course. Uses academic rationalization and cognitive processing philosophies to develop and refine intellectual processes. Students learn from historical perspectives of motor control to develop skills necessary to pose and solve problems, to infer, to hypothesize, and to locate needed resources for theoretically sound clinical judgments. Students read original research papers and current literature pertaining to motor learning, motor programs and dynamic pattern theory. Student will analyze papers examining loss of function related to disease or injury. Prerequisite: First Year Fall Classes

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

HAY 535 Issues in Motor Control
Establishes historical context for the major explanatory concepts applied to issues of coordination and skill during the last century. Compares readings of original work of Bernstein to current literature pertaining to motor programs, dynamic pattern theory and computational models. Students will critically evaluate papers related to the control of locomotion and the control of reaching and grasping skills.

3 credits, 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, servocontrol, information processing theory, motor programs, dynamic pattern theory and computational models.

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

HAY 537 Neuroplasticity
Presents an overview of recovery of function mechanisms. Critically analyzes animal and human research literature examining spinal cord, somatosensory cortex, motor cortex and neural 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.

3 credits, 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, and mechanical traction. Emphasis on evidence-based practice with ample opportunity to learn from experienced clinicians through guest lectures and site visits. Students 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.

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

HAY 542 Electrotherapy in Physical Therapy
Presents principles of electrophysics and the application to the human body in health and disease and relates principles to the use of electrophysiologic stimulators and testing equipment in physical therapy clinical practice. Discusses properties of excitable membranes and effects of electrical stimulation on muscle and nerve tissue. Promotes evidence-based practice through analysis of appropriate literature. Covers electrotherapeutic management of impairments and pathology of musculoskeletal system, neuromuscular system, cardiopulmonary system and the integument. Explores the role of electrotherapy as adjunctive modality in a comprehensive physical therapy treatment plan. Discusses fundamental skills for application of biphasic pulsed current, monophasic pulsed current, uninterrupted direct current, interferential electrical stimulation, Russian stimulation, microstimulation (MENS), transcutaneous nerve stimulation (TENS), neurostimulation (NMES), functional electrical stimulation (FES) and iontophoresis. Introduces biofeedback and electrodiagnostic testing: nerve conduction velocity (NCV) and electromyography (EMG).

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

HAY 543 Wound Care in Physical Therapy
Introduces the physical therapist's role in management of chronic wounds. Focuses on performing a comprehensive assessment designed to identify challenges to proper wound closure. Students will use the results of this assessment to form an appropriate plan of care based on the clinical presentation of the wound and the individual needs of each patient/client. Discusses mechanisms of integumentary
healing in the human body including potential difficulties posed by cardiovascular, orthopedic, neurological and endocrinologic/metabolic disorders. Considers local factors implicated in delayed wound closure. Students learn to set appropriate goals and apply treatment interventions including wound irrigation and debridement, pressure relief, and choice of topical agents and dressing to promote efficient closure. Emphasizes evidence-based practice: focuses on pre-treatment assessment physiological response to treatment, and best available research as the basis for clinical decision making. Covers patient education, treatment preparation and performance, indications and contraindications for intervention. Laboratory sessions and group discussions will be case study driven to foster critical thinking and collaborative learning. Prerequisites: First Year Fall Courses 1 credit, Letter graded (A, A-, B+, etc.)

HAY 544 Modalities in Physical Therapy

Introduces physical modalities including superficial and deep thermal agents, hydrotherapy, aquatic therapy, intermittent compression, and mechanical traction. Presents principles of electrophysics and the application to the human body in health and disease. Includes polarity, voltage, current, Ohm's law and the use of electrophysiologic stimulators and testing equipment in physical therapy clinical practice. Discusses properties of excitable membranes and effects of electrical stimulation on muscle and nerve tissue. Promotes evidence-based practice through analysis of appropriate literature. Covers electrotherapeutic management of impairments and pathology of musculoskeletal system, neuromuscular system, cardiopulmonary system and the integument. Presents fundamental skills for application of electrical stimulation including biphasic pulsed current, monophasic pulsed current, uninterrupted direct current, interferential electrical stimulation, Russian stimulation, microstimulation (MENS), transcutaneous nerve stimulation (TENS), neurostimulation (NMES), functional electrical stimulation (FES) and iontophoresis. Prerequisites: First Year Summer Courses 3 credits, Letter graded (A, A-, B+, etc.)

HAY 545 Ethics and Health Care for Physical Therapists

Provides an overview of the ethics of health care in a rapidly changing society. Explores ethical issues surrounding health care changes and public health policy. Includes an overview of the ethics within patient education and discussions involving the physical therapy professional codes of ethics and standards. Students will learn how to approach ethical dilemmas using theoretical frameworks and decision-making processes. Introduces the student to the ethics within physical therapy and other health care professions through the use of case studies. Includes a review of classic cases in health care ethics, involving issues such as euthanasia and organ transplants, from an ethical, legal and historical perspective. Prerequisites: Second Year Courses 3 credits, Letter graded (A, A-, B+, etc.)

HAY 548 Medical Imaging

Introduces equipment, procedures and use of medical imaging for examination and evaluation of dysfunction. Examines topics such as radiographs, arthrography, CT scans, MRI, and nuclear studies. Case studies will be used to integrate imaging data into the patient/client management plan. 2 credits, 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. 3 credits, 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. 3 credits, Letter graded (A, A-, B+, etc.)

HAY 552 Research Methods for Physical Therapists

First of three courses designed to prepare students to search for and critically appraise scientific literature as well as understand the fundamentals of research methods, design, and statistics. Includes principles of evidence based practice, use of electronic data bases to search for evidence, research and measurement reliability and validity, research design, descriptive statistics, statistical inference, tests for experimental comparison, correlation, regression, and nonparametric tests. Addresses the relationship between statistics and research design by introducing relevant research articles in the healthcare field. Prerequisites: First Year Fall Courses 3 credits, Letter graded (A, A-, B+, etc.)

HAY 553 Computer Literacy and Evidence Based Practice

Addresses the foundational skills practicing therapists need to effectively manage, integrate, 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. 1-2 credits, 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. 3 credits, Letter graded (A, A-, B+, etc.)

HAY 557 Introduction to Evidence Based Practice

Addresses foundational skills practicing therapists need to effectively access, manage, integrate and communicate information for clinical practice, research and professional activities. Uses core electronic information resources, including clinical decision-support databases and knowledge management tools to quickly locate and effectively assess the quality of clinical and healthcare bibliographic databases such as PubMed and CINAHL. Emphasizes citation tracking tools and critical clinical decision support tools including Web of Science and Cochrane Database of Systematic Reviews. Trains students in the use of citation management software (EndNoteX6) to support research. Prerequisites: First Year Courses
1 credit, 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. Prerequisites: Second Year Courses
1-3 credits, Letter graded (A, A-, B+, etc.)

HAY 560 Professional Practice I: Foundations

First of three courses regarding the developing physical therapy professional. Discusses historical, ethical and legal foundations and current and emerging issues affecting change within the profession. Introduces the format and function of the APTA at the national and state levels. Examines the roles and responsibilities of the physical therapist, the physical therapist assistant and the physical therapist aide in the present healthcare environment. Explores dynamics of professional interactions with patients, families and other healthcare providers. 2 credits, 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 nonverbal 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. Prerequisites: First Year Fall Courses
2 credits, Letter graded (A, A-, B+, etc.)

HAY 562 Selected Topics in Clinical Education and Professional Development

Provides framework for assuming the roles of a clinical instructor. Includes the preplanning period, structuring the actual clinical experience, and types of evaluation provided to physical therapy students. Explores various models of clinical education and opportunities for APTA Residencies and Fellowships. Emphasizes self assessment, communication skills and professional development. Links discussions with concurrent learning experiences in Clinical Internship II including learning opportunities, patient care and teaching styles. Explores in detail selected topics from APTA clinical performance instruments. Uses a case study for students to delve deeper into plan of care for a patient receiving treatment during the Clinical Practice II. 2 credits, 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. 3 credits, Letter graded (A, A-, B+, etc.)

HAY 576 Clinical Decision Making

Explores various theories and concepts of clinical decision-making and physical therapy diagnosis. Clinical reasoning including hypothesis generation and refinement applied within the context of the NAGI Disablement Model and patient/client management model as outlined in The Guide to Physical Therapy Practice. Clinical cases will be used to explore the diagnostic practice patterns across the lifespan. 3 credits, Letter graded (A, A-, B+, etc.)

HAY 580 Practicum
A limited number of students may enroll in 3-6 credits of independent study in research, education, clinical practice, or management/administration. Each practicum project is uniquely designed to meet the needs of the student. Mentored by faculty with expertise in the area of study. Acceptable projects must include design, implementation and analysis phases. 3-6 credits by permission of the Program Director. 3-6 credits, Letter graded (A, A-, B+, etc.)

HAY 589 Case Studies I
Develop students’ ability to utilize and apply relevant knowledge and skills within the patient management model including examination, evaluation, and development of intervention strategies. Students will discover how the four systems (neuromotor, cardiopulmonary, musculoskeletal, and integumentary) work together to influence function through problem-based activities and case studies. Culminates in student group presentations with defense of clinical decisions for assigned case studies at the end of this integrative experience. Prerequisites: First Year Fall Courses 1 credit, S/F graded

HAY 590 Case Studies II
Second in a two-course sequence to further develop students’ ability to utilize and apply relevant knowledge and skills within the patient management model. With each Case Studies course, the demand on students for synthesis and integration increases. Requires students to examine, evaluate, determine differential diagnosis, prognosticate, develop and integrate intervention strategies for patients of varying ages from diverse cultural backgrounds with complex neuromotor, cardiopulmonary, musculoskeletal, and or integumentary pathology/dysfunction. Culminates in student group presentations with defense of clinical decisions for assigned case studies at the end of this integrative experience. Prerequisites: Second Year Fall Courses 1 credit, S/F graded

HAY 595 Clinical Internship 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 in-service during this clinical experience. Students are required to submit guided journals to DCE via email to promote reflective thinking during clinical experience. Prerequisites: Second Year Summer Courses 6 credits, S/F graded

HAY 601 Issues in Global Health Care
Examines theories of health and wellness in the context of national and international public health initiatives. Explores epidemiology of intrinsic and extrinsic high risk factors and the social and political context of professional practice. Current and projected roles of the physical therapist and other health care workers in evolving health care environments are explored, examining various health care models to determine the current impact on practice outcomes and to hypothesize future effectiveness. 2 credits, 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. Prerequisites: Second Year Courses 1-3 credits, Letter graded (A, A-, B+, etc.)

HAY 608 Orthopedic Examination and Intervention I
Combining lectures, demonstrations, and hands on laboratory sessions, this course will emphasize the application of evidence-based practice in all areas of spinal management. Where little evidence exists, a pragmatic approach integrating basic principles of biomechanics and pathokinesiology will be used. Provides an introduction to the biomechanical, dysfunction types, and their respective terminology. Presents an integrated model of physical therapy examination and evaluation of spinal disorders. Discusses and incorporates a physical therapy management approach of manual therapy of the spine and pelvis combined with patient education and exercise. The course will devote lab time to carefully monitor skills of palpation, examination, and interventions. 3 credits, Letter graded (A, A-, B+, etc.)

HAY 610 Fitness and Wellness
Examines and integrates the principles of strength, endurance, speed and agility training to formulate a wellness screening and program design. These principles will be used as 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. 3 credits, 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, T'ai Chi, Acupuncture, and Feldenkrais into physical therapy directed wellness programs. Explores the evidence for utilization of these techniques in selected patient populations. 3 credits, Letter graded (A, A-, B+, etc.)

HAY 612 Sports and Exercise Nutrition
Integrates the concepts of nutrition, bioenergetics, and energy expenditure into a broad understanding of the role of nutrition in daily activity, wellness parameters, and exercise performance. Emphasis will be placed on the topics of macro-
and micro-nutrients and their effects during exercise and training, nutrient bioenergetics, thermoregulation, ergogenic aids, body composition, energy balance and weight control, and optimal nutrition for healthy lifestyles.

3 credits, 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.

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

HAY 616 Exercise Prescription

Presents issues related to exercise prescription for health, wellness and prevention in various healthy and at risk populations across the lifespan. Explores various physiological principles and topics in fitness and cardiopulmonary care through case studies. Examines various patient/client types and health and prevention settings (e.g. cardiac, high risk populations, obstetrics, occupational health and injury prevention, ergonomics, sports medicine (pre, post and in-season), obesity, athletic programs for the physically and/or mentally challenged, falls prevention in the elderly and cardiac fitness programs) and integrates general fitness.

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

HAY 622 Current Topics in Pediatrics

Emphasizes the examination, evaluation, assessment, intervention and outcome measure of children with disabilities. Topics will enhance and challenge those physical therapists that practice in a pediatric setting. Explores the use of current and future adaptive equipment in pediatrics as well as the role of the pediatric physical therapist in a variety of contexts and environments.

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

HAY 692 Clinical Internship II

An eight week full-time clinical experience and is the second clinical experience in the curriculum. 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. Student will incorporate outcome measures into the evaluation process and suggest specific measure useful for the clinical setting. Students will perform an in-service and communicate regularly with DCE to promote reflective thinking during clinical experience. Prerequisites: Second Year Courses

8 credits, S/F graded

HAY 693 Clinical Internship III

A ten-week full-time clinical experience. A licensed physical therapist is responsible for 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 in-service during this clinical experience and communicate regularly with DCE via email to promote reflective thinking during clinical experience. Prerequisites: Third Year Fall Courses

10 credits, S/F graded

HAY 694 Clinical Internship IV

A twelve week full-time capstone clinical experience. A licensed physical therapist is responsible for supervision during the learning experience. Students will render evidence-based practice and perform as an entry-level physical therapist upon completion of this clinical experience. Students are expected to fully participate in all aspects of physical therapist's scope of practice including direct patient care, documentation, consultation, education, critical inquiry, and administration in the clinical setting. perform as an entry-level physical therapist upon completion of this clinical experience. Students will perform an in-service during this clinical experience and communicate regularly with DCE via email to promote reflective thinking during clinical experience. Student will explore an area of interest outside patient management through the completion of a project designed to meet the needs of the clinical site in coordination with the DCE and clinical site CCCE. Prerequisites: Third Year Summer and Fall Courses; HAY 693

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

HAY 699 Clinical Continuation

This course is for physical therapy students continuing with clinical.

0 credit, S/F graded

HBA

HBA 325 Anatomical/Bio Illustration

This course will offer an introduction to human anatomy for the studio artist who is interested in biological illustration. It will provide an introduction to techniques of illustration utilizing as subject matter the live model, skeleton, prospection and cadaver dissection. Details of human anatomy will often be discussed by comparison of humans with other vertebrates. Lectures will precede each lab/studio class and involve topics such as size and shape, developmental changes in proportion, topographic and surface anatomy, bone-muscle relationships and human movement, comparative form of visceral organs, and the comparative
anatomy of humans and higher primates. This course will be open to all students who have had introduction to life drawing (or its equivalent) and/or introduction to the biological sciences (or its equivalent). We expect that this offering will benefit artists who are interested in developing their representational drawing skills and enhancing their knowledge of anatomy and morphology, AND students in the life sciences who are interested in enhancing their drawing skills. This course is offered as both HBA 325 and ARS 355.

3 credits

HBA 398 Research Project in Anatomical Sciences
An independent research project under faculty supervision, with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. The student is expected to prepare a report on the project and be able to discuss his or her work. Open to juniors and seniors. May be repeated. 2-4 credits, S/U grading

HBA 399 Research Project in Anatomical Sciences
An independent research project under faculty supervision, with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. The student is expected to prepare a report on the project and be able to discuss his or her work. Open to juniors and seniors. May be repeated. 2-4 credits, S/U grading

HBA 461 Regional Human Anatomy
An overview of the gross anatomy of the human body. Dissection of the entire human body. Includes neuroanatomy. Associated course fee - $88.00. Prerequisite: Permission of instructor for non-Health Sciences students. 5 credits

HBA 521 Gross Anatomy of Head, Neck, and Trunk
Tutorial laboratories with emphasis on dissections of the human head, neck, and trunk. 8 credits, Letter graded (A, A-, B+, etc.)

HBA 531 The Body
A lecture and laboratory with emphasis on dissection of the entire human body. Topics include functional and topographic anatomy, embryology, clinical correlations, and an introduction to radiology. 8 credits, S/F graded

HBA 540 Human Anatomy for Physical Therapists
A lecture and laboratory course that includes dissections of the entire human body. The course is organized in three modules: (1) thorax and abdomen, (2) head and neck, including neuroanatomy, and (3) limbs. It covers regional and conceptual information on the gross anatomy of all organs systems in the human body. Prerequisite: permission of instructor for students that are not enrolled in Stony Brooks Physical Therapy Program. 6 credits, Letter graded (A, A-, B+, etc.)

HBA 541 Evolutionary Anatomy
A lecture and laboratory with emphasis on dissection of the entire human body. Includes functional and comparative anatomy with special emphasis on the musculoskeletal morphology of humans and higher primates. This course is offered as both DPA 541 and HBA 541. Fall, 8 credits, Letter graded (A, A-, B+, etc.)

HBA 542 Advanced Human Anatomy for Physical Therapists
Regional approach to the gross anatomy of the lower limb for physical therapy graduate students (DPT). The course is presented in conjunction with HYA519, Kinesiology for Physical Therapists. This module will offer an expanded view of the functional anatomy and arthrology of the hip, thigh, leg and foot. Labs will be three hours, one day per week. Enrollment will be limited to DPT students. 0 credit, S/U grading

HBA 550 Vertebrate Evolution
Survey of the fossil record of vertebrate evolution. The course emphasizes the origin, phylogeny, comparative and functional morphology, biogeography, and paleontology of vertebrate animals. Laboratory included. The lectures and laboratories will utilize an extensive collection of comparative anatomical material, fossil casts, and slides. Spring, alternate years, 4 credits, Letter graded (A, A-, B+, etc.)

HBA 551 Phylogenetic Systematics, Biogeography and Comparative Methods
This course will provide students with a familiarity in the practical application of modern phylogenetic methods and the use of phylogenies in framing evolutionary hypotheses. The course will have both a lecture and laboratory component with lectures including in-class discussions of assigned readings. Lab exercises will be devoted to hands-on experience with available software for phylogenetic and comparative methods. Comparative methods examined will include a focus on historical biogeography as well as ancestral state reconstruction, rates of evolution and diversification, and analysis of adaptation and key innovations. 4 credits, Letter graded (A, A-, B+, etc.)

HBA 560 Advanced Regional Anatomy
Advanced human gross anatomy for graduate students or advanced undergraduates in biology, anthropology and other life sciences. Fall, Summer, 3-8 credits, Letter graded (A, A-, B+, etc.)

HBA 561 Human Gross Anatomy
A lecture and laboratory course that includes dissections of the entire human body. The course is organized in three modules: (1) thorax and abdomen, (2) head and neck, including neuroanatomy, and (3) limbs. It covers regional and
conceptual information on the gross anatomy of all organ systems in the human body. Prerequisite: permission of instructor for students that are not enrolled in Stony Brook's Occupational Therapy, Physician Assistant or Respiratory Therapy programs.

Summer, 5 credits, Letter graded (A, A-, B+, etc.)

HBA 563 Aspects of Animal Mechanics
An introduction to biomechanics. Covers freebody mechanics and kinetics as applied to vertebrate locomotion. Considers the structure and physiology of muscle as it relates to adaptations of the musculoskeletal system. This course is offered as both HBA 563 and DPA 563.

Spring, odd years, 2 credits, Letter graded (A, A-, B+, etc.)

HBA 564 Primate Evolution
The taxonomic relationships and evolutionary history of primates as documented by their fossil record and structural and chemical evidence. Emphasis on primates prior to the origin of the human lineage. This course is offered as ANT 564, DPA 564 and HBA 564.

Spring, even years, 4 credits, Letter graded (A, A-, B+, etc.)

HBA 565 Human Evolution
A survey of the fossil record of hominid evolution through the Pliocene and Pleistocene with emphasis on the morphological structure and function of locomotor, masticatory, and neural systems. Includes utilization of comparative anatomical material and an extensive cast collection. This course is offered as ANT 565, DPA 565 and HBA 565.

Fall, even years, 4 credits, Letter graded (A, A-, B+, etc.)

HBA 566 Studies in Functional Morphology
Introduction to the theory and methods of functional morphology. Various methods of analysis and the application of experimental techniques such as electromyography or bone strain analysis are discussed as they pertain to the understanding of the interaction between form and function. Special emphasis is placed on the analysis of human and nonhuman primate morphology, and the application of this analysis to interpretation of the fossil evidence for human and nonhuman primate evolution. This course is offered as both HBA 566 and DPA 566.

Spring, even years, 2 credits, Letter graded (A, A-, B+, etc.)

HBA 582 Comparative Anatomy of Primates
The comparative anatomy of living primates. Laboratory dissection with emphasis on relating structural diversity to behavior and biomechanics. This course is offered as both HBA 582 and DPA 582.

Spring, alternate years, 4 credits, Letter graded (A, A-, B+, etc.)

HBA 590 Projects in Anatomical Sciences
Individual laboratory projects closely supervised by faculty members to be carried out in staff research laboratories.

Fall and Spring, 1-6 credits, S/U grading

HBA 690 Graduate Seminar
Seminars by graduate students on current literature in the areas of the anatomical sciences.

Fall and Spring, 1 credit, S/U grading

HBA 692 Advanced Topics in Anatomical Sciences Literature
Tutorial readings in anatomical sciences with periodic conferences, reports and examinations arranged with the instructor.

Fall and Spring, 1-2 credits, S/U grading

HBA 695 Practicum in Teaching
Practical instruction in the teaching of anatomical sciences carried out under faculty supervision.

1-4 credits, S/U grading

HBA 699 Dissertation Research on Campus
Original investigation under supervision of thesis adviser and committee.

Fall, Spring, and Summer, 1-9 credits, S/U grading

HBA 700 Dissertation Research off Campus - Domestic
Prerequisite: Must be advanced to candidacy (G5). Major portion of research will take place off-campus, but in the United States and/or U.S. provinces. Please note, Brookhaven National Labs and the Cold Spring Harbor Lab are considered off-campus. All international students must enroll in one of the graduate student insurance plans and should be advised by an International Advisor.

Fall, Spring, 1-9 credits, S/U grading

HBA 701 Dissertation Research off Campus - International
Prerequisite: Must be advanced to candidacy (G5). Major portion of research will take place outside of the United States and/or U.S. provinces. Domestic students have the option of the health plan and may also enroll in MEDEX. International students who are in their home country are not covered by mandatory health plan and must contact the Insurance Office for the insurance charge to be removed. International students who are not in their home country are charged for the mandatory health insurance. If they are to be covered by another insurance plan they must file a waiver be second week of classes. The charge will only be removed if other plan is deemed comparable.

Fall, Spring, 1-9 credits, S/U grading

HBA 800 Full-Time Summer Research
Full-time laboratory research projects supervised by staff members.

0 credit, S/U grading

HBC

HBC 331 Introductory Biochemistry
An introduction to biochemistry including all aspects of metabolism and the synthesis, structure, and function of DNA,
RNA, and protein stresses the medical significance of these aspects of biochemistry. Prerequisite: Organic Chemistry 3 credits

HBC  531  Molecular Foundations of Medicine
An integrated course covering the important aspects of biochemistry, cell biology, human and molecular genetics, and histology. Includes lectures, small group conferences and laboratories and stresses the clinical relevance of the basic science material.
8 credits, Letter graded (A, A-, B+, etc.)

**HBH**

HBH  330  Fundamentals of Pharmacology I
HSC Bulletin InformationCovers the basic principles that underlie the action of drugs on physiological processes. These principles are applied to the specific action of drugs on the autonomic nervous system. In addition, the pharmacology of cardiovascular drugs are covered in detail.
2 credits

HBH  331  Fundamentals of Pharmacology II
A continuation of HBH 330. Covers the action of drugs on individual systems as well as drug-drug interactions emphasizing the mechanisms of drug action. Surveys therapeutic applications and adverse drug reactions.
3 credits

HBH  333  Principles of Pharmacology
This course presents the basic scientific principles that underlie the mechanism of action of the major classes of various drugs and their effects on patho-physiologic processes in humans. A prototype approach is used to assist students in organizing and learning the major drug classifications. A major emphasis is placed on the development of clinical decision-making and critical thinking skills as essential components of the role of the baccalaureate-prepared registered professional nurse.
4 credits

HBH  396  Research Project in Pharmacology
An independent research project under faculty supervision, with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. The student is expected to prepare a report on the project. May be repeated. May not be taken for credit in addition to BCP 487.
0-6 credits

HBH  398  Research Project in Pharmacology
An independent research project under faculty supervision, with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. The student is expected to prepare a report on the project. May be repeated. May not be taken for credit in addition to BCP 487.
1-6 credits

**HBH**

HBH  399  Research Project in Pharmacology
An independent research project under faculty supervision, with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. The student is expected to prepare a report on the project. May be repeated. May not be taken for credit in addition to BCP 487.
1-6 credits

HBH  501  Principles of Pharmacology
Basic principles and mechanism of drug distribution, absorption, metabolism and elimination. Principles of chemical carcinogenesis and tumor promotion. Autonomic, Smooth Muscle and CNS Pharmacology. Pharmacology of specific drugs of historical interest including alcohol, antibiotics, aspirin, nicotine and morphine. Review of anticoagulants & thrombolytic agents, antiparasitic, and drugs for the treatment of allergic conditions and gout. Includes discussion of specific cases taken from clinical practice and a presentation based on a set of selected readings. Crosslisted with BCP 401 Fall, 4 credits, Letter graded (A, A-, B+, etc.)

HBH  502  Advanced Principles of Pharmacology

HBH  505  Pharmacology to Pharmacy: Practical Clinical Aspects for Non-Doctors or Non-Graduate Students
This course, to be offered exclusively online, is designed for students interested in health care (either basic medical science-oriented or clinical). The class introduces many aspects of clinical pharmacology, but is geared toward non-clinicians. Clinical Vignettes and case discussions will be presented. Several medical procedures will be first described and then demonstrated. Understanding these procedures will be integral to appreciating the vignettes and clinical case discussions. The multidisciplinary course faculty will include physicians, scientists, educators, nurses and pharmacists. Enrolled students will have the opportunity to ask questions directly through online chats.
0-3 credits, S/U grading

HBH  506  Graduate Pharmacology Colloquium
Research seminars in pharmacology and toxicology presented by faculty and distinguished scientists from academic and industrial institutions. A 1 hr. Journal Club/Discussion Session precedes seminar to review a reference paper relevant to the research concepts to be presented. Students are expected to develop an understanding of the scientific principles given
in the colloquium. Students are required to give a formal presentation. Co-scheduled with BCP 406. Offered Spring, 2 credits, Letter graded (A, A-, B+, etc.)

**HBH 510 Practical Clinical Exposure for Translational Basic Scientists Hospital Clinical Rotations-Physician**

Course faculty will arrange two, two-week-long rotations (four weeks total). The following services are committed to participate: Anesthesiology—students will be offered opportunities in operating room (OR) observation; pre-admission patient evaluations; pain management clinic; and others depending upon availability. Internal Medicine—students will be offered opportunities in the medical intensive care unit (MICU); coronary care unit (CCU); medical oncology; and others depending upon availability. Others—depending upon availability. Student will be expected to spend 3-4 hours daily in their assigned clinical activities (15-20 hours weekly; 60-80 hours for the course). In addition, they will be asked to participate in special medical exercises arranged for them on an ad hoc basis, by course faculty, both in the hospital pharmacy and elsewhere. Finally all students will attend weekly case conferences, 2 hr each for all 4 weeks. At these conferences, students will be asked to prepare and present two clinical cases, based on two of the patients they have seen on their clinical rotations. It is expected that each student will be responsible for at least two presentations during the four-week course. Presentations will be graded by course faculty, S (satisfactory) or U (unsatisfactory). The final grade for the course, also S or U, will be determined both by these grades as well as by overall attendance at all course activities. 0-3 credits, S/U grading

**HBH 531 Principles of Medical Pharmacology**

Basic principles that underlie actions of drugs on physiological processes with particular reference to their therapeutic and toxic actions. For medical and dental students. 5 credits, Letter graded (A, A-, B+, etc.)

**HBH 545 Biochemical Laboratory Techniques**

Introduces theoretical principles and experimental techniques used in modern biochemical research. Lectures and homework assignments explore topics in basic molecular and cellular techniques. Prerequisites: Admission to Health Sciences Center program. Fall, 1 credit, Letter graded (A, A-, B+, etc.)

**HBH 546 Biochemical Laboratory Techniques**

Continuation of HBH545. Lectures and demonstrations present topics in chromatography, mass spectrometry, protein sequencing, sedimentation, electrophoresis, ligand binding, basic pharmacological methods and statistical analysis of data. Includes procedures for the safe handling of toxic chemicals and radioisotopes. Prerequisites: Permission of instructor, admission to graduate Health Sciences Center program. Spring, 1 credit, Letter graded (A, A-, B+, etc.)

**HBH 550 Statistics in Life Sciences**

This course covers statistical concepts and issues in the life sciences. Basic algebra is assumed as a prerequisite. Topics covered include: descriptive statistics, foundation of statistical inference, sampling distribution, point estimate and confidence intervals, comparison of independent and paired samples, analysis of categorical data, correlation, ANOVA, linear regression, and nonparametric test. 1 credit, S/U grading

**HBH 560 Proposal Preparation in Regulatory Biology**

A literature-based course focusing on major research areas in molecular and biochemical pharmacology. The first part of the course will expose students to a series of examples of recent grant proposals. The second part of the course will feature student presentations of their research proposals. Due to the coordination of this course with the Qualifying Exam, registration is limited to Pharmacology graduate students. Fall and Spring, 2 credits, S/U grading

**HBH 580 Selected Topics in Pharmacology**

Student seminars and readings on topics arranged through consultation with staff. 0-1 credits, Letter graded (A, A-, B+, etc.)

**HBH 585 Advanced Structural Biology/ Structural Methods in Drug Discovery**

This course is designed for students that want to gain theoretical and practical experience in macromolecular structure determination through NMR spectroscopy and/or X-ray crystallography. The course is organized into two modules: NMR spectroscopy and X-ray crystallography. Students may elect to take one or both modules. Emphasis will be placed on practical aspects of structural determination, including sample preparation, data collection and processing. In each of the modules, students will be guided through a complete structural determination project. A final project report per module will be required. Familiarity with Linux is desirable. Students are encouraged to contact instructors prior to enrolling. Crosslisted as BSB580 and HBH585. Spring, 0-4 credits, S/U grading

**HBH 590 Pharmacology Seminars**

Advanced research seminars by staff and visiting lecturers. Fall and Spring, 0-1 credits, S/U grading

**HBH 599 Graduate Research in Pharmacological Sciences**

Original research projects under faculty supervision. Fall, Spring, and Summer, 0-12 credits, Letter graded (A, A-, B+, etc.)

**HBH 601 Practicum in Teaching Pharmacology**

Practical experience and instruction in the teaching of pharmacology carried out under faculty orientation and supervision.
HBH 631 Graduate Pharmacology I
Basic principles of pharmacology will be discussed including pharmacokinetics and pharmacodynamics in both normal and various disease states. Major problems in human pharmacology will be considered including obesity, diabetes, hypertension and heart failure. Underlying physiology as well as pathophysiological background will be presented. Drug design and development will be discussed from both scientific and socio-economic perspectives.
Fall and Spring, 3 credits, Letter graded (A, A-, B+, etc.)

HBH 632 Graduate Pharmacology II
This course introduces second-year graduate students to chemotherapy agents used to combat bacterial and viral infections as well as cancers. The course develops a detailed understanding of the strategies involved in identifying drug targets in these two diverse therapeutic settings. The antibacterial lectures emphasize the problem of drug resistance and the need to develop new agents to combat resistant organisms. The anti-cancer lectures begin with a comprehensive analysis of the molecular basis of cellular transformation leading to neoplastic disease. Lectures on cancer therapy emphasize the contrast between conventional cytotoxic chemotherapy and novel therapeutic approaches guided by recent developments in cancer research. Novel computational biology and structural biology approaches are featured throughout the course. Each student is expected to make two formal journal-club style presentations during the course and to actively participate in group discussion.
0-3 credits, Letter graded (A, A-, B+, etc.)

HBH 655 Neuropharmacology
An advanced course for graduate students interested in developing an understanding of neuropharmacology and research on this topic. Following a general introduction to the nerve cell structure, synaptic and chemical transmission, three themes receptors, receptors as channels, and G-protein-coupled receptors are developed. Recent advances in cell and molecular biology provide the framework for instruction and discussion. This course is offered as both HBH 655 and BNB 655. Prerequisite: Admission to Graduate Health Sciences Center Program.
Spring, 3 credits, Letter graded (A, A-, B+, etc.)

HBH 656 Cell Biology
Introduction to the structural and functional organization of cells and tissues and to the way structure relates to function. Particular emphasis is placed on nuclear and chromosomal structure, signal transduction, protein translocation, the cytoskeleton and the extracellular matrix. The interaction of cellular structures and components and their regulation is stressed as is the organization and interaction of cells in tissues. The course is comparative and includes examples of cells and tissues from vertebrates, invertebrates, plants, and prokaryotic systems. Prerequisite: matriculation in graduate program or permission of instructor.
Spring, 3-4 credits, Letter graded (A, A-, B+, etc.)

HBH 699 Dissertation Research in Campus
Original investigation undertaken as part of the Ph.D. program under supervision of thesis adviser and committee. Prerequisite: Advancement to candidacy (G5); permission of thesis advisor. Major portion of research must take place on SBU campus, at Cold Spring Harbor, or at the Brookhaven National Lab.
Fall, Spring, and Summer, 0-9 credits, S/U grading

HBH 700 Dissertation Research off Campus - Domestic
Prerequisite: Must be advanced to candidacy (G5). Major portion of research will take place off-campus, but in the United States and/or U.S. provinces. Please note, Brookhaven National Labs and the Cold Spring Harbor Lab are considered on-campus. All international students must enroll in one of the graduate student insurance plans and should be advised by an International Advisor.
Fall, Spring, 1-9 credits, S/U grading

HBH 701 Dissertation Research off Campus - International
Prerequisite: Must be advanced to candidacy (G5). Major portion of research will take place outside of the United States and/or U.S. provinces. Domestic students have the option of the health plan and may also enroll in MEDEX. International students who are in their home country are not covered by mandatory health plan and must contact the Insurance Office for the insurance charge to be removed. International students who are not in their home country are charged for the mandatory health insurance. If they are to be covered by another insurance plan they must file a waiver be second week of classes. The charge will only be removed if other plan is deemed comparable.
Fall, Spring, 1-9 credits, S/U grading

HBI 398 Research Projects in Biomedical Sciences
An independent research project under faculty supervision. Emphasizes the principles of experimental design, data collection, evaluation of findings and reporting of results. Project report required. May be repeated.
2-4 credits

HBI 599 Graduate Research in Radiation Oncology Medical Physics
Original research projects under the faculty supervision in areas of medical physics relating to radiation oncology.
1-8 credits, Letter graded (A, A-, B+, etc.)
HBM

HBM 320  General Microbiology
A study of the molecular structure, functional anatomy, growth, genetics, and pathogenic mechanisms of microbial agents, with an emphasis on bacteria and viruses. Non-specific and specific host defenses and the control of microorganisms will also be covered. Not for credit in addition to BIO 315. Satisfies the microbiology requirement for admission to most allied health, nursing, optometry, and veterinary medicine professional schools.
3 credits

HBM 321  General Microbiology Laboratory
Complementing the lecture material of HBM 320, this optional laboratory covers basic and applied microbiological methods. Students are introduced to methods for isolating pure cultures, microscopy and staining, quantitation of bacteria and determination of sensitivity to antimicrobial agents. This laboratory is limited to pre-allied health, pre-nursing, and pre-veterinary students. This course has an associated fee. Please see www.stonybrook.edu/coursefees for more information.
1 credit

HBM 398  Research Project in Microbiology
An independent research project under faculty supervision, with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. Project report required. May be repeated.
0-4 credits

HBM 399  Research Project in Microbiology
An independent research project under faculty supervision, with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. Project report required. May be repeated.
0-4 credits

HBM 503  Molecular Genetics
Introduces the classical work and current developments in lower and higher genetic systems. Covers gene structure and regulation in prokaryotic and eukaryotic organisms, mutational analysis and mapping, transposable elements, and biological DNA transfer mechanisms. Bacteriophage as well as lower and higher eukaryotic systems are used to illustrate aspects of molecular genetic structure and function. This course is offered as both MCB 503 and HBM 503. Prerequisite: matriculation in graduate program or permission of instructor
Fall, 3 credits, Letter graded (A, A-, B+, etc.)

HBM 509  Experimental Molecular Genetics and Microbiology
An introduction to modern microbiological research. The selection of laboratories is made in consultation with the student's advisory committee. By taking part in ongoing projects the student will learn experimental procedures and techniques and become acquainted with research opportunities in the department.
Fall, 1-8 credits, S/U grading

HBM 510  Experimental Molecular Genetics and Microbiology
An introduction to modern microbiological research. The selection of laboratories is made in consultation with the student's advisory committee. By taking part in ongoing projects the student will learn experimental procedures and techniques and become acquainted with research opportunities in the department.
Spring, 1-8 credits, S/U grading

HBM 522  Biology of Cancer
A short course with the emphasis on cancer as a disease of man. Lectures address human cancer as seen by the clinician and as basic research relates to human disease. This course provides students with a link between courses in cell and molecular biology and the application of this basic information to tumor management. Offered as HBM 522 and HPH 659.
Offered Spring
2 credits, Letter graded (A, A-, B+, etc.)

HBM 599  Graduate Research in Molecular Genetics and Microbiology
Original investigations under faculty supervision.
Fall and Spring, 1-9 credits, S/U grading

HBM 640  Molecular Mechanisms of Microbial Pathogenesis
This course covers the principles and molecular mechanisms of pathogenesis of a selected group of the best understood viral and bacterial pathogens. A major focus of the course relates to pathogen modification of host extracellular and intracellular signalling events, as well as pathogen-host interactions pertaining to the innate, humoral and cellular responses to infection. The material is presented by invited lecturers who are leaders in their fields. This courses is directed to graduate students, post-doctorate and medical fellows, and advanced medical students, who are are contemplating careers in infectious disease research.
Prerequisite: HBM, BMO 503 and BMO 520
4 credits, Letter graded (A, A-, B+, etc.)

HBM 690  Molecular Genetics and Microbiology Seminar
A weekly meeting devoted to current work in the department. Enrolled students present seminars each week throughout the term.
Fall and Spring, 0-1 credits, S/U grading

HBM 691  Readings in Molecular Genetics and Microbiology Literature
Readings in microbiology literature covering areas of molecular biology and genetics.
Fall, 1 credit, Letter graded (A, A-, B+, etc.)
**HBM 692 Experimental Methods in Molecular Genetics and Microbiology**

The goal of this course is to introduce students to the rationale underlying the wide array of new methods in biology, as well as to promote the critical analysis of scientific literature. Lectures will be given about various scientific methods and approaches, and journal articles relating to the concepts introduced will be assigned. A separate discussion section will be held to review and critique the articles, to be led by the students.

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

**HBM 693 Research Proposal Preparation in Molecular Genetics and Microbiology**

A course, based upon the literature in molecular genetics and microbiology, to instruct students in scientific writing and the preparation of research proposals. The course will be organized in three parts. In the first section of the course, students will become familiar with the components of the research proposal and will read and evaluate proposals written by the training faculty. Lectures given by the course co-directors will cover the basics of scientific writing, research proposal preparation and the problems and concerns commonly voiced by reviewers of research proposals. In the second section, students will develop two short proposals in the area of molecular genetics and microbiology that are unrelated to their graduate research. The students' skills in proposal preparation will be enhanced by critiquing the short and full proposals presented by other students in the second and third sections of the course.

Spring, 1-3 credits, Letter graded (A, A-, B+, etc.)

**HBM 695 Advanced Readings in Molecular Genetics and Microbiology**

A seminar in changing topics in molecular genetics and microbiology such as virology, bacteriology, cancer biology, vaccines, drug discovery, mycology and parasitology.

1 credit

**HBM 699 Dissertation Research on Campus**

For the student who has been advanced to candidacy. Original research will be under the supervision of the thesis advisor and advisory committee.

Fall, Spring, and Summer, 1-9 credits, S/U grading

**HBM 700 Dissertation Research off Campus - Domestic**

Prerequisite: Must be advanced to candidacy (G5). Major portion of research will take place off-campus, but in the United States and/or U.S. provinces. Please note, Brookhaven National Labs and the Cold Spring Harbor Lab are considered on-campus. All international students must enroll in one of the graduate student insurance plans and should be advised by an International Advisor.

Fall, Spring, 1-9 credits, S/U grading

**HBM 701 Dissertation Research off Campus - International**

Prerequisite: Must be advanced to candidacy (G5). Major portion of research will take place outside of the United States and/or U.S. provinces. Domestic students have the option of the health plan and may also enroll in MEDEX. International students who are in their home country are not covered by mandatory health plan and must contact the Insurance Office for the insurance charge to be removed. International students who are not in their home country are charged for the mandatory health insurance. If they are to be covered by another insurance plan they must file a waiver before second week of classes. The charge will only be removed if other plan is deemed comparable.

Fall, Spring, 1-9 credits, S/U grading

**HBN 531 Neuroscience**

**HBP 310 Pathology**

A study of the basic mechanisms of disease and the pathophysiology of the important human illnesses. Primarily for Health Sciences Center students; others admitted with special permission.

3 credits

**HBP 393 Special Topics from Pathology Literature**

Tutorial readings in pathology, with periodic conferences, reports, and examinations arranged with the instructor. May be repeated.

1-2 credits

**HBP 394 Special Topics from Pathology Literature**

Tutorial readings in pathology, with periodic conferences, reports, and examinations arranged with the instructor. May be repeated.

1-2 credits

**HBP 398 Research Project in Pathology**

An independent research project under faculty supervision, with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. The student is expected to prepare a report on the project and be able to discuss his or her work. May be repeated.

0-4 credits
HBP 399 Research Project in Pathology
An independent research project under faculty supervision, with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. The student is expected to prepare a report on the project and be able to discuss his or her work. May be repeated. Prerequisite: Laboratory experience.
0-4 credits

HBP 511 Pathobiology for Graduate Health Care Practitioners
For graduate students who have obtained primary health care baccalaureate degrees through the case study approach. Covers the underlying principles of modern experimental pathology. Focuses on the clinical aspects of the body system, including relevant underlying biochemistry, structure, or pathophysiology at the organ, tissue, cell or molecular level.
Fall and Spring, 3 credits, Letter graded (A, A-, B+, etc.)

HBP 533 Immunology
Principles of immunology for graduate students in the biological sciences, including definition of antigens and antibodies, specificity of the immune response, immunoglobulin structure, the genetics of immunoglobulin synthesis, cellular cooperation in the immune response, hypersensitivity, tolerance immunogenetics. Open to advanced undergraduates.
Fall, 3 credits, Letter graded (A, A-, B+, etc.)

HBP 556 Laboratory Medicine
A four-week full-time (6 hr, day) course dealing with clinical laboratory decision making and the basis for the laboratory evaluation of human evaluation of human disease. Didactic and practical presentations by interdepartmental faculty. Intended principally for senior medical students, but also for advanced microbiology or biochemistry students interested in clinical applications.
Spring, 6 credits, Letter graded (A, A-, B+, etc.)

HBP 590 Seminars in Immunology
A series of monthly seminars focusing on research in progress by the participants, current journal articles in the field of immunobiology, and prepared reviews of specified areas in the general field.
Fall and Spring, 1 credit, S/U grading

HBP 622 Clinical Pathologic Correlations: Gross Pathology
Correlative exercises in clinical pathology and human gross anatomic pathology including surgical biopsy material. Open to students in medical sciences.
Fall, 1-3 credits, Letter graded (A, A-, B+, etc.)

HBP 691 Journal Club in Pathology
Provides students with a forum for acquiring skills involved in the critical analysis and presentation of scientific data by active participation in seminars of major topics in cellular and molecular pathology, and critical discussion of selected topics with presentation of papers from the literature.

Fall and Spring, 1 credit, Letter graded (A, A-, B+, etc.)

HBP 966 Hematology Conference
Teaches a given aspect of hematology, oncology or immunology. Staff from medicine, pathology, and nuclear medicine participate, and usually presents a case to introduce the subject. Various teaching aids, such as review of pathological material, are used. Primarily for health sciences professionals.
1-3 credits, Letter graded (A, A-, B+, etc.)

HBP 967 Tumor Conference
Considers problems in the management of patients with a malignancy and recommendations for a course of therapy for each patient including a review of a particular aspect of cancer treatment or natural history in depth. Functions as the link between the hospital and the Eastern Oncology Cooperative Group. Primarily for health science professionals.
1-3 credits, Letter graded (A, A-, B+, etc.)

HBP 968 Advanced Clinical Pathologic Correlations: Gross Pathology
Postgraduate correlative exercises in human gross pathologic anatomy that emphasize the gross pathologic basis for altered function and clinical manifestations of disease. Open to physicians and others with advanced degrees in medical sciences.
1-3 credits, Letter graded (A, A-, B+, etc.)

HBP 969 Anatomical and Surgical Pathology for Residents in Pathology
To provide practical and clinical experience in tissue pathology. During the four week elective the student is given the opportunity to participate in all aspects of autopsies as well as gross and microscopic examination of surgical specimens. There is ongoing review of general and organ system pathology to reinforce structural-functional correlations. This elective is selected by students who plan a career in pathology as a "hands-on" introduction to the specialty. The elective is also chosen by others, particularly individuals who will enter radiology, and who seek to correlate radiographic and pathologic anatomy. Students who are sufficiently interested and motivated may become involved in relatively independent work-up of selected cases. Primarily for health sciences professionals.
1-3 credits, Letter graded (A, A-, B+, etc.)

HBP 971 Renal Clinico-pathologic Correlations
A case-oriented, postgraduate course in renal biopsy interpretation and its relationship to patient management. 1 credit, Letter graded (A, A-, B+, etc.)

HBY 350 Physiology
The normal functioning of human tissues and organs and their regulation by the nervous and endocrine systems. Special emphasis is given to physiological control systems and the preservation of the constancy of the internal environment. Lectures, conferences, demonstrations. Only for Health Sciences Center students.
4 credits

HBY 390 Topics in Physiology
Seminar in advanced topics taught in conjunction with HBY 350 Physiology. Only Fall.
1 credit

HBY 393 Special Topics from Physiology and Biophysics Literature
Tutorial readings in physiology and biophysics and periodic conferences, reports, and examinations arranged with the instructor. May be repeated. Only Fall.
1-2 credits

HBY 394 Special Topics from Physiology and Biophysics Literature
Tutorial readings in physiology and biophysics and periodic conferences, reports, and examinations arranged with the instructor. May be repeated. Only Fall.
1-2 credits

HBY 398 Research Project in Physiology and Biophysics
An independent research project under faculty supervision, with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. The student is expected to prepare a report on the project and be able to discuss his or her work. May be repeated. Only Spring.
0-6 credits

HBY 399 Research Project in Physiology and Biophysics
An independent research project under faculty supervision, with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. The student is expected to prepare a report on the project and be able to discuss his or her work. May be repeated. Only Spring.
0-6 credits

HBY 500 Short Term Research Projects in Physiology and Biophysics
Short term research project (rotation) under the supervision of a staff member. Spring, 1-12 credits, Letter graded (A, A-, B+, etc.)

HBY 501 Physiology
Introduces normal function of human tissues and organs and their regulation by nervous and endocrine systems. Emphasizes the organization and function of physiological control systems and the maintenance of a constant internal environment. Enrollment restricted to fully matriculated graduate students, with permission of instructor. Only Fall.
4 credits, Letter graded (A, A-, B+, etc.)

HBY 530 Cellular Physiology and Biophysics
Cellular structure and function. Topics include ion channels, excitability, transport, energetics and metabolism, contraction, secretion, and communication within and between cells. Emphasizes quantitative analysis of cellular processes. 1-3 credits, Letter graded (A, A-, B+, etc.)

HBY 531 Medical Physiology
A graduate-level introduction to the physiology of the organ systems with ultrastructural correlations. Ultrastructural correlations are demonstrated in a laboratory setting using histological preparations in conjunction with electron micrographs illustrating the relevant ultrastructure needed to understand the normal functioning of tissues and organs. The physiology of the major organ systems is addressed in a lecture format with the emphasis on problem solving. Relevant clinical correlations are addressed at the end of each block in so far as they illustrate how symptoms and signs of disease result from disordered physiology. Organ Systems addresses the structure and function of the cardiovascular, respiratory, renal, gastrointestinal, endocrine, skeletal, reproductive, and integumentary systems. Prerequisites: Admission to medical or dental school and permission of instructor. Only Spring.
8 credits, Letter graded (A, A-, B+, etc.)

HBY 554 Principles of Neuroscience
The aim of this course is to highlight and create an understanding as to how the human nervous system operates. 3 credits, Letter graded (A, A-, B+, etc.)

HBY 557 Advanced Physiology
This course is designed to introduce students to integrative approaches in biomedical research. Emphasis will be placed on the primary physiological concepts of control, communication, signal processing, metabolism and replication. Prerequisites: Systems Physiology, Biochemistry and Permission of Instructor.
Spring, 3 credits, Letter graded (A, A-, B+, etc.)

HBY 561 Statistical Analysis of Physiological Data
Statistical methods useful in analyzing common types of physiological data. Topics include probability, data distributions, hypothesis testing with parametric and non-parametric methods, ANOVA, regression and correlation, and power analysis. Emphasis is on experimental design and appropriate, efficient use of statistical software.
Spring, 1 credit, Letter graded (A, A-, B+, etc.)

HBY 562 Model-based Analysis of Physiological Data
The analysis of common biochemical and physiological data by non-linear regression of data models and biophysical models of physiological and biochemical processes. Examples include binding kinetics, compartmental mass transfer and spectral analysis.
Fall, 1 credit, Letter graded (A, A-, B+, etc.)
Experimental Techniques in Systems Physiology

A series of lectures and laboratory exercises designed to introduce students to in vivo experimental techniques used in systems physiology. Emphasis will be placed on the ethical use of rodents in biomedical research and the measurement of physiological variables. Data acquisition and analysis procedures used in cardiovascular, respiratory, neural, and renal physiology will also be covered. Only 2 credits, Letter graded (A, A-, B+, etc.)

Student Journal Club

Graduate student presentation on a selected topic with faculty consultation.
1 credit, Letter graded (A, A-, B+, etc.)

Special Topics in Physiology and Biophysics

Students seminars on topics to be arranged through consultation with faculty members. Prerequisite: Permission of instructor.
Fall and Spring, 1 credit, S/U grading

Physiology and Biophysics Research

Original investigation under the supervision of a staff member.
1-12 credits, Letter graded (A, A-, B+, etc.)

Seminar in Physiology and Biophysics

Seminars and discussions on major topics in physiology and biophysics by students, staff, and visiting scientists. Prerequisite: Permission of instructor
0-1 credits, S/U grading

Practicum in Teaching in Physiology and Biophysics

Practical experience and instruction in the teaching of physiology and biophysics carried out under faculty orientation and supervision.
1 credit, Letter graded (A, A-, B+, etc.)

Dissertation Research on Campus

Original (thesis) research undertaken with the supervision of a member of the staff. Prerequisite: Advancement to candidacy (G5); permission of thesis advisor. Major portion of research must take place on SBU campus, at Cold Spring Harbor, or at the Brookhaven National Lab.
1-9 credits, S/U grading

Dissertation Research off Campus - Domestic

Prerequisite: Must be advanced to candidacy (G5). Major portion of research will take place off-campus, but in the United States and/or U.S. provinces. Please note, Brookhaven National Labs and the Cold Spring Harbor Lab are considered on-campus. All international students must enroll in one of the graduate student insurance plans and should be advised by an International Advisor.
1-9 credits, S/U grading

Dissertation Research off Campus - International

Prerequisite: Must be advanced to candidacy (G5). Major portion of research will take place outside of the United States and/or U.S. provinces. Domestic students have the option of the health plan and may also enroll in MEDEX. International students who are in their home country are not covered by mandatory health plan and must contact the Insurance Office for the insurance charge to be removed.
1-9 credits, S/U grading

Full-Time Summer Research

Full-time laboratory research projects supervised by staff members.
0 credit, S/U grading

Compassionate Care, Medical Humanities, and the Illness Experience

This course will introduce students to major interpretations of the illness experience, to several classical biographical and autobiographical accounts of illness, and to the important dynamic of compassionate care in the healing relationship. The patient-as-person will be emphasized throughout, as well as the ways in which respect for and empathy toward the patient impacts diagnostic accuracy, patient adherence, and patient and professional satisfaction. Some emotional dynamics of the illness experience will be addressed, such as hope, through the work of eminent physician-writers such as Jerome Groopman, MD. The dynamics of medical mistakes and forgiveness will be explored through psychiatrist Aaron Lazarre’s influential writings on effective medical apologies. Some philosophical and metaphysical aspects of personhood and self-identity will be introduced.
Offered in Fall, 3 credits, Letter graded (A, A-, B+, etc.)

Landmark Cases in Bioethics

What is a life worth living? How do we decide, and who decides, when to use medical technologies such as incubators, ventilators, transplants and reproductive technologies? This is an intensive introduction to some of the cases in medical ethics that have changed the ways that we are born, cared for, and die in American hospitals. Examples of topics include: vaccination and public health; eugenics and human subjects research ethics; the right of privacy and health care; end-of-life planning and treatment; women's bodies and fetal rights; disability rights; religious beliefs and health care; triage and allocation of scarce resources; mental illness and individual rights; global clinical trials; and, bioethics and culture.
Offered in Fall, 3 credits, Letter graded (A, A-, B+, etc.)
HCB 503 Traditions and Values in Bioethical Conflicts

This course serves as an introduction to Western moral and religious traditions and to the positions about killing, saving, and enhancing that these traditions have informed. It explores the interface between religion and biomedical ethics and then delves into specific issues in health care in light of more general normative concerns such as justice, love, autonomy and rights, utilitarianism, self-sacrifice, gender, virtue, and community. The issues with which the course deals address the plights of real people, in the concrete, who come from particular backgrounds and whose set of values may make them sometimes recalcitrant to possibilities that technology has made (or is just now making) available.

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

HCB 504 Special Topic in Biotechnology

Just because we can do it, does this mean that we should do it? This course takes a focused look at controversial practices in health care settings, such as organ donation and enhancements, which have been (and are continuing to be) made available with the advancement of technology. Ought we to regard that which technology makes available as uncontroversially good? If not, why not? What sorts of new issues regarding distributive justice, autonomy, utility, and compassion are ours to consider carefully because of the changing world in which we live?

Offered in Spring, 3 credits, Letter graded (A, A-, B+, etc.)

HCB 510 Literature, Compassion, and Medical Care

How does literature help us understand the nature of human illness and suffering? Can written works of art, ancient and contemporary, that depict moments of compassion and compassionate acts lay bare the moral, spiritual, psychological, and physical reality of suffering? There is a long association between literature and medicine, from the viewpoint of physician-writers, such as Anton Chekov and William Carlos Williams, whose literary skills have eclipsed their medical backgrounds. Sherlock Holmes and Doctor Watson were the creations of a physician-writer, Arthur Conan Doyle. Physicians portrayed in literature, such as Dr. Bernard Rieux, in Albert Camus The Plague, have also explored the relationship between patient and doctor, the nature of healing. This semester-long course will study these relationships through reading of poetry, drama, fiction, memoir, and essay and reflect on the nature of suffering, the intrinsic human need for compassion, and the implications for health and healing.

Offered in Fall, 3 credits, Letter graded (A, A-, B+, etc.)

HCB 511 Bioethics, Disability & Community

Most people will experience disability at some point in their lives, and for some it will shape their social, personal, family, educational, and employment experiences. Viewpoints on disabilities which have emerged in policy and the broader culture have been explicitly challenged by emerging communities of people with disabilities who seek to speak for themselves and claim full inclusion in society. In this context, bioethicists and disability scholars have found points of both common cause and stark disagreement over issues such as neonatal and end-of-life care, the value and values inherent medical decisions and their outcomes. These bioethical debates occur in the context of debates over the rights of individuals with disabilities to self-determination, accommodations for work and schooling, and the potential for people with disabilities to make unique contributions because of--rather than despite--their disabilities. This course will consider major debates in bioethics in light of recent scholarship in disability studies, drawing on perspectives from philosophy, literature and narrative, history, and sociology.

Offered in Fall, 3 credits, Letter graded (A, A-, B+, etc.)

HCB 512 Altruism and Bioethics

What is altruism, and what are its evolutionary roots as a moral dynamic? What impact does altruistic action have on the human agent? Does it impact flourishing and health? When is it experienced as overwhelming by medical professionals? Where does altruism fit within medical and nursing professionalism? How is it related to compassionate care? What about the duty to treat in time of epidemic, auto-experimentation, pro-bono medical treatment, high-risk provision of healthcare in time of conflict, healthcare activism, and the commitment to the patient's good as a guiding professional ideal? How does the practitioner strike a balance between the care of patients and the care of the nearest and dearest or the care of the self? How does altruism correlate with pro-social behavior, happiness, and health?

Offered in Fall, 3 credits, Letter graded (A, A-, B+, etc.)

HCB 513 Disease and Society

What is disease? How do the beliefs, politics, and economies of particular societies shape how diseases are defined, experienced, and treated? In this seminar, students will explore these questions by analyzing historical documents, scientific reports, and historical scholarship. We will look at disease from multiple perspectives as a biological process, clinical entity, population phenomenon, historical actor, and personal experience. We will pay special attention to how diseases have been recognized, diagnosed, named, classified and counted in different times, places, cultures, and settings based on different environmental and social conditions, medical ideas, diagnostic technologies, and available treatments. The course will begin with a review of major approaches to understanding the manifold relationships between disease and society. The remainder of the course will view disease and society relationships through the lens of specific issues, such as epidemic disease, consumption and affluence, globalization, and risk.

Offered in Fall, 3 credits, Letter graded (A, A-, B+, etc.)

HCB 514 Global Bioethics

Bioethics is an American invention. Ideas about medicine and morality, of course, go back to antiquity and are documented as medical ethics in Europe, medical morality in China, and under many other names in cultures around the world. Recently, the process of globalization of ideas, medical practices, clinical trials, and migration of patients has led to clashes of culture around issues such as the appropriate standards and control groups for clinical trials, organ transplantation, brain death, and end-of-life care. Issues of religion, morality, public policy, disability rights and policy, and health system structure and payment all shape how
particular societies decide to manage divisive issues such as the beginning and end of life. This course will draw on a growing literature on global and transnational cases, policies, and traditions in the ethics of health, public health, and health care.

Offered in Spring, 3 credits, Letter graded (A, A-, B+, etc.)

HCB 515 Health Policy, History & Ethics

Who gets sick? Who gets health care, what kind, and in what setting? This course covers the major health policy issues of the United States today, including the health status of the U.S. as a whole, the social and economic determinants of health, the role of personal and public health services in affecting health, the organization and financing of health services, and the multiple factors affecting health policies. We will explore the evolution of the US health care system in the past century, and debates about rights to health care or lack thereof, health disparities, conflicts of interest, and the ethics of health policy and practice.

Offered in Fall, 3 credits, Letter graded (A, A-, B+, etc.)

HCB 516 Ethical Issues in Human Reproduction

New technologies have modified human reproduction in numerous ways, raising profound questions about the moral status of human life and the nature of parental and sibling obligations. This course will investigate the values that attach to different relationships, both familial and general. It will cover questions around the treatment of infertility, surrogate mothering, the commodification of the body, and the elevated expectations of familial obligations that correspond to new reproductive technologies.

Offered in Spring, 3 credits, Letter graded (A, A-, B+, etc.)

HCB 517 The Problem of Evil: Philosophical, Biological, and Social Dimensions

What is the nature of evil? Can it be the result of brain malfunction, something that is genetically predetermined? Or, is evil something which is part of or at least necessary to know the good? Alternatively, is evil an arbitrary designation, a perspective from which we can wrest ourselves given the right sort of reinvention? In this class, we shall address the problem of evil from scientific, social-scientific, and philosophical perspectives, using fiction and non-fictional sources. Examples of medical evil, such as the Nazi doctors or Tuskegee, can be introduced as case studies.

Offered in Spring, 3 credits, Letter graded (A, A-, B+, etc.)

HCB 518 Empirical Bioethics

The formal study of bioethics attempts to define ethical courses of action in a world ever increasing in complexity. But in day to day practice, ethical outcomes are expressed through the individual decisions and resulting actions--of human agents. How do individuals form these judgments? How do people become motivated to engage in behaviors that are designed to benefit someone else? We will explore current scientific approaches to these questions with several areas of emphasis, including a) the neuroscience of compassionate care and altruism, b) cognitive and neuroscientific approaches to understanding judgment and decision making in ethical domains, and c) empirical approaches to quantifying the effects of ethically based policy decisions.

Offered in Spring, 3 credits, Letter graded (A, A-, B+, etc.)

HCB 519 Public Health Law

This course is a survey of legal and policy issues that have special relevance for public health professionals. Topics may vary, but typically will include many of the following: structure of the U.S. legal system; power of state and federal governments in matters affecting health care; governmental power and the right to privacy; constitutional issues in social welfare benefits; governmental regulation of health care providers and payers; the scope and discretion of administrative agencies in health care; the antitrust laws; the fraud and abuse laws; and negligence in the delivery and financing of health care. The course is taught primarily by Socratic method.

Offered in Spring, 3 credits, Letter graded (A, A-, B+, etc.)

HCB 520 Bioethics and Film

Film and television, both fiction and nonfiction, capture man of the human tragedies, challenges, and possibilities that are debated in bioethics books, articles, newspapers, on hospital ethics committees, and in daily clinical care. This course will explore themes of birth, death, hope, fear, faith, finitude and resource allocation through watching, analyzing, and reading about bioethics issues in visual media. The course will draw on material from philosophical ethics to history, health policy, and film criticism to place these issues and their portrayals in context.

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

HCB 521 Clinical Ethics Practicum

As difficult as settling abstract ethical issues in medicine may be, the delivery of ethical care presents its own set of difficulties. This course aims to introduce students to the practices hospitals employ to ensure the care they deliver meets the relevant legal and moral requirements. At the end of this course, students will have been exposed to many basic, and some advanced, aspects of clinical ethics theory and practice. They will be able to identify, describe, and analyze ethical dilemmas in clinical cases, and will develop an appreciation for the complexity and multi-disciplinary nature of ethical dilemmas in clinical medicine and will be able to apply what they have learned to assess ethical, social, and legal aspects of cases.

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

HCB 522 The Role of Virtue Ethics in Medicine

Aristotle’s Nicomachean Ethics and the role of virtue ethics are central to many religious traditions including Buddhism, Christianity, Confucianism, and the philosophical traditions. Key virtues include honest, courage, generosity, prudence, justice, compassion, benevolence, loyalty, and hospitality. This course explores the real and potential role of virtue on the development of virtuous physicians. The course’s texts offer two diametrically opposed views on the role of virtue in medicine, i.e., one is that virtue can be channeled into the training of medical professionals, whereas the other is that bioethics has extracted virtue from medicine. Through
readings, documentaries, dialogue and active leadership of sessions by students, the course will interrogate the claims as well as possibilities for a role of virtue in medicine.

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

**HCB 523 Special Topics in Medical Humanities**

As with all multidisciplinary pursuits, the medical humanities project is characterized by an ongoing negotiation among its practitioners over methods, scope and goals. This course will examine, in detail, one of the latest debates within the field. 3 credits, Letter graded (A, A-, B+, etc.)

**HCB 524 Special Topics in Bioethics**

Bioethicists are frequently asked to consider the ethical ramifications of new research findings and emerging technologies as they arise. This course will examine one such issue in close detail.

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

**HCB 598 Independent Study**

3 Credits, ABCF Grading

0-4 credits, Letter graded (A, A-, B+, etc.)

**HCB 599 Special Projects Capstone Course**

This course, to be offered in the second (spring) semester, is designed to satisfy the special projects requirement of our program. The first part of the course will be devoted to readings and discussions that further illuminate the methodologies of the interdisciplinary field of medical humanities, compassionate care, and bioethics. Students will develop an appreciation for the standards of high quality scholarship and research through review of carefully selected readings. This will prepare them for the second part of the course, where they pursue and present their own research based on the existing literature. This capstone course will be highly collaborative, entail substantial peer review, and be organized around the development of significant student projects which are intended to represent the beginnings of publishable papers. Our entire faculty will be involved in these projects according to their specific areas of expertise. Offered in Spring, 3 credits, Letter graded (A, A-, B+, etc.)

**HD**

**HD 495 Research Fellowship for Entering Dental Students**

This course is a research fellowship program designed for students who have been accepted into the DDS program and will matriculate in the fall semester. The students in the fellowship program will work closely with their mentor to carry out a literature review, develop a research study design and/or participate in an ongoing study. The students will be required to formulate a specific aim and a hypothesis based on a research question. They are also required to present a poster or oral presentation from their results, based on the literature and on preliminary data from their research at the annual Student Research Day.

0 credit, S/U grading

**HDC**

**HDC 601 Children's Dentistry I**

This course offers an introduction to pediatric dentistry and orthodontics taught in units of growth and development in preparation for clinical responsibilities and general practice. The course consists of lectures, problem-based discussions, Simulation Laboratory exercises, and self-learning/assessment programs on Blackboard.

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

**HDC 621 Year II Children's Dentistry Clinic**

Provides clinical experience for the preventive, interceptive, corrective, operative, surgical treatment of children. Faculty supervision, 45 course hours. Prerequisite: HDC 601 Laboratory Component

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

**HDC 701 Children's Dentistry II**

Advanced Seminars in Children's Dentistry builds on the foundation of Comprehensive Pediatric Oral Health and allows students to build competence and confidence through active learning and case based presentations. The four didactic units are behavior management, special needs patients, orthodontic diagnosis, and trauma management. Prerequisite: HDC 601

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

**HDC 721 Year III Children's Dentistry Clinic**

Year III Children's Clinic is a full year clinical experience in pediatric dentistry through patient care in the Dental Care Center's Pediatric Dental Clinic. Students will perform the full range of pediatric procedures, advanced behavior management, and fabricate orthodontic appliances.

Prerequisite: HDC 601

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

**HDC 821 Year IV Dental Care for the Developmentally Disabled Clinic**

Persons with developmental disabilities often present with medical and behavioral issues which require treatment planning skills that differ from management of the "well" patient. This course teaches the provision of comprehensive dental care for the developmentally disabled individual. Students learn to assess the risks to oral disease, develop treatment plans appropriate to the developmentally disabled patient's profile and provide treatment in a clinic setting, learning specific behavioral modification and management techniques. The course consists of lectures and clinical experience.

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

**HDE**

**HDE 611 Endodontic Technique**

This course focuses on the biology and pathology of the pulp and periapical tissues. A particular concentration is placed on the basic principles of endodontic procedures.
aimed at diagnosis and management of pulpal and periapical pathology. The application of endodontic procedures is performed on mounted simulated teeth, simulating clinical situations.

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

**HDG 615 Introduction to Endodontics**

The goal of this course is to provide the student with knowledge of classic and contemporary endodontic science. Students will develop an overall understanding of endodontic pathosis, its diagnosis, as well as management.

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

**HDG 725 Year III Endodontics Clinic**

This course is designed to give students hands on experience in diagnosis, radiographic interpretation, endodontic anesthesia, and management of patients with pulpal and periradicular diseases. The selection and use of endodontic instruments and materials are demonstrated and discussed during clinic sessions.

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

**HDG**

**HDG 299 Introduction to Research in General Dentistry**

This course provides an introduction to research in general dentistry with initial training in study design, and clinical and/or laboratory procedures, under the guidance of a faculty member in the Department of General Dentistry. May be repeated up to a maximum of 12 credits.

0-3 credits, S/U grading

**HDG 399 Supervised Research in General Dentistry**

This course provides training in clinical and/or laboratory techniques and procedures used in dental research, under the direct supervision of a faculty member in the Department of General Dentistry. May be repeated up to a maximum of 12 credits.

0-6 credits, S/U grading

**HDG 499 Independent Research in General Dentistry**

This course is for students interested in carrying out independent research projects under the auspices of a faculty member in the Department of General Dentistry. The student must propose, design, and carry out the research project, as well as analyze and write up the results in a form acceptable to the sponsor.

0-6 credits, Letter graded (A, A-, B+, etc.)

**HDG 511 Dental Morphology and Occlusion**

This module emphasizes tooth morphology and basic concepts of dental occlusion. It includes both theoretical and practical involvement. The course incorporates tooth identification, waxing/carving techniques, and digital scanning with CAD/CAM.

0-3 credits, Letter graded (A, A-, B+, etc.)

**HDG 512 Operative Dentistry I**

HDG 512 is a pre-clinical course in operative dentistry. This course introduces basic principles and techniques of tooth preparation as well as restoration of a tooth structure damaged by caries, fractures or trauma, with direct restorative materials. This course also introduces variations of tooth preparations based on the extent of the lesion, the restorative materials selected, and functional and/or esthetic requirements.

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

**HDG 521 Clinical I: Introduction to Patient Care**

The purpose of this course is to reinforce foundation knowledge with an introduction to the dental clinical setting. The students will be paired with an upper class student and have opportunity to practice the clinical procedures they learned in the prerequisite course, Patient I, as well as observe many procedures within the whole spectrum of dentistry. In addition, the course will reinforce doctor-patient management and communication practices discussed in Patient I within a patient-centered treatment model.

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

**HDG 522 Cariology**

Cariology is a preclinical course taught in Year 1. This course introduces basic principles of cariology such as caries etiology and progression, different methods of diagnosis and classification of lesions. This course also focuses on control of caries progression, describing home and office fluoride treatment, dietary control, oral hygiene, patient education and motivation. Surgical treatment is introduced in this course as concepts and practical exercises of caries removal with hand and rotary instruments in extracted teeth. Caries Management by Risk Assessment (CAMBRA) is presented in this course based on a critical discussion of risk indicators, risk factors, destructive and protective factors associated with caries to determine interventions.

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

**HDG 601 Health Care Systems and Clinical Practice**

The course is to serve as an introduction to the organization and component aspects of the health care delivery system of this country, as well as an awareness of professional ethics and responsibilities. The course focuses on competencies related to practice management, health systems (standards 2-17, 2-18, 2-19) and ethics and professionalism (standard 2-20). The course consists of 28 hours of lectures and debates. The course introduces the factors that affect the quality of health services, the multiple practice arrangements for the delivery of health services, including concepts of an office team and office system, and the many government and community agencies that affect practice arrangements in providing health and social services. This is followed by an introduction to the general principles of insurance, health insurance and other forms of insurance. In addition, the legal concepts and issues affecting patient care are considered. These many issues are brought together in a series of student
debates to review current dental, general health and social issues.
0 credit, Letter graded (A, A-, B+, etc.)

**HDG 614 Operative Dentistry II**
This course focuses on conservative esthetic treatments, indirect esthetic posterior preparations and cementation, and CAD/CAM technology. Prerequisites: HDG 512, HDI 505, HDG 521, and good standing as a Year I student.
0 credit, Letter graded (A, A-, B+, etc.)

**HDG 621 Year II Operative Dentistry Clinic**
HDG 621 is the student’s introduction to the General Dentistry Clinic and patient treatment in operative dentistry. This course focuses on patient-centered comprehensive Operative Dentistry. It is designed to prepare students to practice operative restorative dentistry by providing experiences in adult patient oriented care. Students develop the skills necessary to perform simple, comprehensive restorative dentistry in a preventive general practice environment. Emphasis is on the development of clinical critical thinking skills necessary for advancement. Students will work with faculty dentists and all sessions involve direct patient care, including the formulation of simple treatment plans, the placement of simple operative restorations and the administration of local anesthesia. The successful completion of a patient Operative diagnosis/treatment planning competency, CAMBRA competency, and a patient based caries removal competency examinations are requirements for advancement. Prerequisites: HDG 512, HDG 521, HDI 505, and good standing as a Year II student.
0 credit, Letter graded (A, A-, B+, etc.)

**HDG 704 Practice Development I**
This course is designed as the introduction to Clinical Practice Management. A series of 2 hour lectures will present the introductory concepts for developing a business plan for a successful dental practice. In addition, this course is designed to instruct the student to utilize and train dental auxiliary personnel in order to practice dentistry in an efficient and productive manner. Techniques of four-handed dentistry, infection control, patient management, and duty delegation will all be blended to provide a format for dental practice which is ergonomically sound. The concepts discussed will build upon those presented in the Health Care Systems courses and will provide foundational knowledge and skills necessary to obtain competency in the Year IV Clinical Practice Management II course.
0 credit, Letter graded (A, A-, B+, etc.)

**HDG 706 Implantology**
This course focuses on the utilization of the osseous integrated implant in routine clinical practice. Students will learn the theory of osseous integration to bio-acceptable materials. They will learn how to treatment plan prospective cases utilizing clinical examinations, study models and radiographs including computerized tomography. Students will learn the fabrication of radiographic and surgical stents. Students will have the full surgical techniques explained for partially edentulous patients. The general dentist is capable of restoring many of the implant prosthesis. Students will learn many of the techniques needed to restore the various oral scenarios as well as the selections criteria for the appropriate treatment. Overall, this course is designed to prepare the general practitioner to serve as the team leader in the osseous integrated prosthesis oral restoration.
0 credit, Letter graded (A, A-, B+, etc.)

**HDG 721 Year III Operative Clinic**
This course focuses on patient-centered comprehensive Operative Dentistry. It is designed to prepare students to practice operative restorative dentistry by providing additional experience in adult patient oriented care. Students develop the skills necessary to perform comprehensive restorative dentistry in a preventive general practice environment. Emphasis is on the development of clinical judgment and expertise through experience of a wide range of clinical procedures. Students will work with faculty dentists and perform the full range of operative dental procedures, including diagnosis, treatment planning, consultation, comprehensive operative restorative treatment, basic patient management skills and basic communication skills. Prerequisites: HDG 621, good academic standing as a Year II student.
0 credit, Letter graded (A, A-, B+, etc.)

**HDG 803 General Dentistry Seminar IV**
This course is designed to evaluate the student's ability to access, critically appraise, demonstrate applicability, and communicate scientific and lay literature as it relates to the provision of evidence-based general dentistry. Using skills attained in HDI 601, and three years of clinical practice experience the students will select, research, and present a current topic to their peers and an interdisciplinary panel of faculty members. The topics selected will cover a range of subjects that affect the practitioner’s daily performance and are critical to the practitioner's knowledge base. The course will also serve to provide the students with further experience in researching, preparing, and presenting to their colleagues.
0 credit, Letter graded (A, A-, B+, etc.)

**HDG 804 Practice Development II**
Practice Development II consists of two main components. The first component is a lecture series designed to provide the student with an in-depth understanding of practice management concepts introduced in Practice Development I. The second component to this course is a group project and presentation. The class is divided into 20 groups, with each group to present an assigned topic. The topics cover a spectrum of issues/concepts necessary to start and operate a successful private practice.
0 credit, Letter graded (A, A-, B+, etc.)

**HDG 805 Care of Medically Compromised and Geriatric Patients**
The didactic and clinical components of the Year IV course Care for the Medically Compromised Patient HDG 805 gives instruction and practice in managing the unique needs of the medically frail elderly. Students will also have unique interprofessional educational experiences focusing on health promotion and disease prevention in medically complex and geriatric patients. The didactic component of HDG-805
consists of small group discussion with quizzes related to the assigned readings. The course provides the pre-doctoral dental student with the knowledge necessary to deliver dental care for the medically complex older adult.
0 credit, Letter graded (A, A-, B+, etc.)

HDG 821 Clinic IV: General Practice Program I
The General Practice Program is the major clinical experience of the dental students during their fourth year. The course is designed to prepare the student for the practice of general dentistry after graduation. It integrates all disciplines of dentistry. Students work with general dentists and are referred to dental specialists in a mode that resembles the private practice of dentistry. Students are assigned responsibility for patients whom they treat comprehensively. The General Dentistry faculty supervise all aspects of care. They direct the students to seek consultation from specialist dentists in developing plans of treatment and in delivering aspects of care as appropriate for individual students and patients. Principles of basic science, medicine and dentistry are integrated. Prerequisites: HDG 721 and good standing as a Year IV student.
0 credit, Letter graded (A, A-, B+, etc.)

HDG 822 Clinic IV: General Practice Program II
The General Practice Program is the major clinical experience of the dental students during their fourth year. The course is designed to prepare the student for the practice of general dentistry after graduation. It integrates all disciplines of dentistry. Students work with general dentists and are referred to dental specialists in a mode that resembles the private practice of dentistry. Students are assigned responsibility for patients whom they treat comprehensively. The General Dentistry faculty supervise all aspects of care. They direct the students to seek consultation from specialist dentists in developing plans of treatment and in delivering aspects of care as appropriate for individual students and patients. Principles of basic science, medicine and dentistry are integrated. Prerequisites: HDG 721 and good standing as a Year IV student.
0 credit, Letter graded (A, A-, B+, etc.)

HDG 824 Year IV Clinical Management of Dental Emergencies II
The fourth year dental student will be assigned rotations to the Urgent Care Center to attain clinical experience in the ability to triage, differentially diagnose, treat and/or refer patients who present themselves with dental and/or orofacial emergencies. Students will treat patients under the supervision of assigned faculty. Consultation with Specialists and/or referrals will be made when necessary.
0 credit, Letter graded (A, A-, B+, etc.)

The student conducts his or her research project under the supervision of one or more members of the Department of Dental Health. The student is expected to submit a written report detailing his or her research activities and conclusions. This course is offered for undergraduate students who demonstrate an interest in the health care delivery system of the United States.
3 credits

HDI

HDI 501 Foundations in Dental Professional Development I
This course is the first of a series of four yearly offerings that are designed as a vertically integrated stream within the predoctoral dental curriculum. As a continuum, the four courses build on competencies related to professionalism and ethics (CODA predoctoral standards 2:20-2.22). This first year course will features interactive lectures, panel discussions, case-based teaching, required readings and journal reflection. The course will meet four times over the academic year. Principal course content areas will include: 1) defining the roles of "doctor" and "professional;" 2) honesty and academic integrity; 3) formative moments of a doctor; and 4) general ethical principles related to health care and patients (beneficence, nonmaleficence, autonomy, justice and veracity).
0 credit, S/U grading

HDI 505 Patient I: Communication and Examination
The purpose of this course is to provide students with an introduction to patient-centered clinical dental care. The first unit focuses on communication strategies and developing rapport, and introduces students to psychosocial factors that influence the etiology, diagnosis, and treatment of oral diseases. The second unit provides an introduction to the clinical setting with instruction in electronic record, patient charting, infection control procedures, and HIPAA and OSHA policies. Simulation sessions will provide students the opportunity to practice clinical procedures and protocol and prepare them for patient care in the Clinic I course.
0 credit, S/U grading

HDI 601 Evidenced Based Dentistry and Critical Thinking
This course consists of eight 2 hour learning modules designed to develop in dental students the basic skills needed to recognize the quality of evidence and journals it is published in, to carry out evidence-based analysis of the literature; to formulate hypotheses and design, analyze data, and give an effective power point presentation. Each module will begin with a brief 15 minute power point orientation by the facilitator, followed by student participation in small groups, lead by a student group leader, selected by the group.
0 credit, Letter graded (A, A-, B+, etc.)

HDI 602 Year II Research Selective
This course is a lab-, clinic- or IT-based practical course that begins in the summer of Year II (as students transition from Year I to Year II). There will be a formal selection process, based on academic eligibility, administered by the Office of Research and Faculty Development, in conjunction with Academic Dean's office and the Academic standing committee. Students will be selected in April and May preceding the summer. Participants, with the assistance of the Office of Research and Faculty Development, will obtain necessary regulatory approvals/training to conduct human, animal research or handle biohazardous materials. Students will choose a lab and mentor from among a list provided by the Office of Research and Faculty Development and spend approximately 2 months in the summer and continue into year 2, to carry out a clearly defined research project.

0 credit, S/U grading

HDI 604 Foundations in Dental Professional Development II

This course is the second in a series of four courses that focus on competencies related to professionalism and ethics (CODA predoctoral standards 2-17 and 2-20). The course will feature formal lectures, small group discussions, case-based teaching, and journal reflection and will meet two times per semester (approximately 1.5 hours per session). The topics to be included in the course are: 1) the impact of culture on the Doctor-Patient Relationship; 2) the historical development of bioethics; 3) medical mistakes; and 4) ethics related to research involving human subjects.

0 credit, S/U grading

HDI 605 Patient II: Team-Based Oral Diagnosis

"Patient II" expands on the knowledge and skills acquired in the "Patient I" course, and provides a solid foundation for Diagnosis and Treatment Planning skills throughout the predoctoral curriculum. The course will focus on competencies related to behavioral sciences (standards 2-15 and 2-16), biomedical sciences (standard 2-13, 2-14), critical thinking and problem-solving (standard 2-9), practice management and health care systems (standard 2-19), and clinical sciences (standard 2-22, 2-23a, b, c, d, k, m). The course will consist of lectures, seminars, and small group sessions.

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

HDI 612 Community I: Population, Oral Health and Epidemiology

This course is part of a major, vertically integrated stream within the four-year predoctoral dental curriculum (patient and community-centered care). The course will focus on those competencies related to epidemiology (2-13, 2-15, 2-21, 2-23d). The course will feature interactive lectures and small group discussion seminars.

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

HDI 704 Foundations in Dental Professional Development III

The course utilizes interactive lectures and small group activities to illustrate various ethical and professional dilemmas faced by dental practitioners. Guest lectures with expertise in ethics and professionalism will provide an introduction to the core principles underlying ethical behavior and conduct. A model of ethical decision making will be presented followed by opportunities for the analysis of various case situations important to dental and medical practice.

0 credit

HDI 705 Patient III: Interdisciplinary Treatment Planning

The skills of developing and delivering a comprehensive treatment plan is an essential step in providing care to patients. This course expects each student to develop and present a comprehensive treatment plan to his/her fellow students and faculty. The student is expected to consider the existing medical, dental, psychological, and financial considerations including the patient's desires in formulating diagnoses, etiology, prognosis, and treatment plan options. These skills will be tested to competency using standardized cases in the Comprehensive Treatment Planning Competency. In addition, the ability to communicate with the patient and deliver a treatment plan will be tested to competency in a videotaped standardized patient encounter. The Health Science Simulation Center utilizing scripted patient #actors# offers a unique platform for this educational experience.

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

HDI 732 Community II: Service Learning Experience

The student will participate in the delivery of dental health care services appropriate to the site and the experience level of the student. The student will be exposed to and interact with patients who may have diminished access to health care due to socioeconomic or cultural backgrounds, medical conditions, or disabilities. Depending on the site, students may be immersed in a culture that is unfamiliar to them.

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

HDI 802 Diagnosis and Management of Oro-Facial Pain

A series of lectures/seminars focusing on differential diagnosis and treatment of facial pain.

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

HDI 804 Foundations in Dental Professional Development IV

The course utilizes small group activities to illustrate various ethical and professional dilemmas faced by dental practitioners. This course continues Foundations in Dental Professional Development III where students were provided with an introduction to the core principles underlying ethical behavior and conduct. Students will meet (four class sessions) with members of the American College of Dentists where there will be opportunities for the analysis of various case situations important to dental and medical practice. The course concludes with a competency examination where students will independently evaluate a case utilizing the model of ethical decision making presented in Foundations in Dental Professional Development III.

0 credit
HDI 806 Year IV Elective Ethics and Professionalism

The seminar will address pressing ethical/professional challenges concerning the delivery of health care and profession of dentistry in the 21st century. It will be structured as an advanced introduction to professional dental ethics designed to afford the interested senior student an opportunity to meaningfully discuss and seek a reasoned position on an assortment of challenging ethical issues currently facing our profession. Selections from the current literature and relevant case studies will be utilized. 0 credit, S/U grading

HDI 832 Community II: Service Learning Experience

The student will participate in the delivery of dental health care services appropriate to the site and the experience level of the student. The student will be exposed to and interact with patients who may have diminished access to health care due to socioeconomic or cultural backgrounds, medical conditions, or disabilities. Depending on the site, students may be immersed in a culture that is unfamiliar to them. 0 credit, Letter graded (A, A-, B+, etc.)

HDI 840 Year IV Children's Dentistry Selective

Clinical observation and self-study experience to gain an understanding of the operations of the CFCP Center and patient management of children born with craniofacial and cleft palate deformities by various specialists of the CPT. Prerequisite: HDC 721 0 credit, S/U grading

HDI 842 Year IV Endodontics Selective

This course allows students to expand upon the foundations of endodontontology taught in Years II and III. Four Year IV students are selected who have successfully completed Introduction to Endodontics, Endodontic Technique, and Year III Endodontic Clinic. Students are exposed to advanced concepts in endodontic science with particular focus on evidence based literature supporting these concepts. Students are also provided opportunity to manage endodontic patients utilizing technology seen in the contemporary endodontic operatory (e.g. surgical operating microscope, active irrigation, rotary instrumentation, ultrasonic instrumentation, warm obturation techniques). 0 credit, S/U grading

HDI 843 Year IV Oral and Maxillofacial Surgery Selective

The senior selective in oral and maxillofacial surgery offers the student opportunities to perform more complex oral and maxillofacial surgical procedures, and to assist oral and maxillofacial surgery attendings and residents in advanced procedures in the clinic, emergency room, and operating room settings. 0 credit, S/U grading

HDI 844 Year IV Orthodontics Selective

Advanced selective course in the treatment of dental malocclusions. 0 credit, S/U grading

HDI 845 Year IV Periodontics Selective

The Selective in Periodontics exposes the 4th year dental students to advanced topics in periodontology. The students will read and be prepared to discuss selected periodontal articles, literature reviews, and clinical reports and critically analyze the findings with the assigned faculty. The students will have the opportunity to attend surgical seminars at the postdoctoral level and to perform limited periodontal surgical procedures under direct faculty supervision. The selective students will also gain teaching experience by participating in the pre-clinical exercises of the second year dental students, teaching periodontal probing, scaling and root planing and ultrasonic instrumentation. 0 credit

HDI 846 Year IV Research Selective

This course is a lab-, clinic- or IT-based practical course that begins in the summer of year 4 (as students transition from year 3 to year 4). There will be a formal selection process, based on academic eligibility, administered by the Office of Research and Faculty Development in conjunction with Academic Dean's office and the Academic standing committee. Students will be selected in April and May preceding the summer. Participants, with the assistance of the Office of Research and Faculty Development, will obtain necessary regulatory approvals/training to conduct human, animal research or handle biohazardous materials. Students will choose a lab and mentor from a list provided by the Office of Research and Faculty Development and spend approximately 2 months in the summer and continue into year 4, to carry out a clearly defined research project. The summer will be devoted to developing the skill-set needed for the project and will continue throughout the year, culminating in a Research Presentation on Student Research Day, during the spring semester. The quality of the presentation will be judged by peers and by faculty attending. There will be a 1st, 2nd & 3rd place awards. 0 credit

HDM

HDM 601 Professional Responsibility I

Ethical and legal considerations in the practice of dentistry. The Dental Care Center is used as the practical laboratory for practice management. Ethics management law, and compliance with the rules of the clinic are monitored by faculty. 6 hours 0 credit, Letter graded (A, A-, B+, etc.)

HDM 801 Professional Responsibility II

A continuation of HDM 601 where the Dental Care Center is the practical laboratory to demonstrate and reinforce effective principles of practice management and acceptable ethical behavior toward the patients, associates and staff. Includes small group discussion of comprehensive patient
care in terms of variations of medical, psychological and economic factors which could impact treatment planning and/or treatment period. Record audits are conducted and reviewed by students under faculty supervision. 14 course hours Prerequisite: HDM 601. 0 credit, Letter graded (A, A-, B+, etc.)

**HDO**

**HDO 320** Research: Oral Biology and Pathology Fall, 2-4 credits

**HDO 321** Oral Biology Research II The student conducts an independent research project under the supervision of one or more members of the Department of Oral Biology and Pathology. The student is expected to submit a written report detailing experimental methods, results, and conclusions. A copy of the student’s transcript must be submitted with the application to the Department. Fall or Spring research. 2-4 credits

**HDO 322** Summer Research: Oral Biology Pathology Summer Research: Oral Biology Pathology 2-4 credits

**HDO 420** Oral Biology Research III The student conducts a research project under the supervision of one or more members of the Department of Oral Biology and Pathology. The student is expected to submit a written report detailing experimental methods, results, and conclusions. A copy of the student’s transcript must be submitted with the application to the Department. Fall or Spring research. 2-4 credits

**HDO 421** Oral Biology Research IV The student conducts a research project under the supervision of one or more members of the Department of Oral Biology and Pathology. The student is expected to submit a written report detailing experimental methods, results, and conclusions. A copy of the student’s transcript must be submitted with the application to the Department. Fall or Spring research. 2-4 credits

**HDO 422** Summer Research Oral Biology and Pathology Summer Research: Oral Biology and Pathology 2-4 credits

**HDO 500** Biology of the Oral Mineralized Tissues This course deals with the basic chemistry, crystallography, ultrastructure, and metabolism of the calcium phosphates involved in the formation and physiological and pathological resorption of the various mineralized tissues found in or associated with the oral cavity (enamel, dentin, cementum, bone). Ectopic calculus formation will be examined. Prerequisites: HDO 560, 561, 562, and 563 or their equivalent. Fall and Spring 3 credits, Letter graded (A, A-, B+, etc.)

**HDO 510** Salivary Metabolism and Secretion Consideration is given to the normal and abnormal structure and function of the glandular systems found in the oral cavity. The composition, regulation, and functions of the secretions from the major and minor salivary glands will receive particular attention. 3 credits, Letter graded (A, A-, B+, etc.)

**HDO 520** Oral Microbial Systems Consideration is given to the structural composition, metabolism, and environmental relationships of the bacterial systems formed on and in association with the oral hard and soft tissues. Specific and mixed bacterial populations, such as those resident on extra-oral mucosal surfaces and the skin and their role in oral disease will be dealt with. Prerequisite: HDO 560, 561, 562, and 563 or their equivalent. Fall and Spring 3 credits, Letter graded (A, A-, B+, etc.)

**HDO 530** Molecular Biology and Pathology of the Periodontium This course deals with the ultrastructure and biochemical composition of the periodontal tissues, remodeling of the extracellular matrix with an emphasis on the role of metalloproteinases; the microbial interrelations with the organic and inorganic components of the periodontal tissues, the biochemical dynamics of gingival inflammation and wound healing, and the metabolic processes responsible for the composition and flow of gingival crevicular fluid. Prerequisites: HDO 560, 561 and 563 or their equivalent. Fall and Spring 2 credits, Letter graded (A, A-, B+, etc.)

**HDO 531** Normal and Reparative Tissue Development in the Oral Cavity This course includes a series of lectures and student-led discussions dealing with specific oral tissues, biologic mineralization, osseointegration, hard and soft tissue development, and tissue regeneration. The molecular aspects leading to oral cancer and osteonecrosis will also be presented and discussed. 2 credits, Letter graded (A, A-, B+, etc.)

**HDO 532** Host-Parasite Interaction This course includes a series of lectures and student-led discussions dealing with specific oral tissues, growth factors, cytokines, prostaglandins, biologic mineralization and wound healing. The biology of the immune system and phagocytic cells is presented, including the relationship of nutrition to inflammation and oral health. The microbiology of the oral cavity in health and disease as well as oral mucosal infections is presented as the basis of the understanding of immunopathobiology of dental caries and periodontal disease. The oral manifestations of pharmacologic agents are reviewed
in terms of both their immunologic and non-immunologic mechanisms of pathology. Finally, antimicrobial chemotherapy and principles of infection control are reviewed in terms of clinical practice of dentistry.  
2 credits, Letter graded (A, A-, B+, etc.)

**HDO 535 Epithelial Keratinization and Differentiation**

The course examines the growth and differentiation of stratified squamous epithelia. Particular emphasis is placed on molecular events involved in the differentiation program. Consideration is also given to mechanisms involved in oral and cutaneous disorders.  
Fall and Spring, 2 credits, Letter graded (A, A-, B+, etc.)

**HDO 550 Oral Diagnostics and Therapeutic Technology, Lectures and Laboratory Techniques**

Recent advances in the use and development of research technology for the early diagnosis and treatment monitoring of oral and systemic disease. Special attention is paid to the principles of technology transfer including patents and patenting; searching of on-line databases is a key component. The course includes relationships of dry mouth to salivary physiology, diabetes, and drug medications; salivary film measurements, wetting of oral surfaces, viscoelasticity and lubricity; the use of the Periotron and enzyme assays for the diagnosis of gingivitis and periodontal disease; instrumentation used in sensitive teeth measurement and evaluation of treatment effectiveness using oral compositions and iontophoresis; oral candidiasis and denture stomatitis and early detection and causes of dental caries; oral malodor measurements including use of the Halimeter and its use in the formulation of oral compositions. Application to clinical practice and clinical studies is covered.  
3 credits, Letter graded (A, A-, B+, etc.)

**HDO 560 Oral Biology and Pathology I**

The first of four comprehensive courses on molecular structure, biochemical and physiological function, developmental anatomy and pathology of the various systems that constitute the oral apparatus. Covers the embryological development of the face and oral cavity and the biology and pathology of the oral sensory systems and the motors that constitute the oral apparatus. The course consists of the following two units of instruction; (1) the biology and pathology of the periodontal structures, Prerequisites: Undergraduate degree in basic science and permission of instructor. Admission to Graduate Health Sciences Center Program.  
3 credits, Letter graded (A, A-, B+, etc.)

**HDO 561 Oral Biology and Pathology II**

The second of four comprehensive courses on molecular structure, biochemical and physiological function, developmental anatomy and pathology of the various systems that constitute the oral apparatus. Covers the biology and pathology of the periodontal structures and the microbiology of the oral cavity. Prerequisites: Undergraduate degree in basic science; permission of instructor.  
3 credits, Letter graded (A, A-, B+, etc.)

**HDO 562 Oral Biology and Pathology III**

This course is the third of four comprehensive courses on molecular structure, biochemical and physiological function, developmental anatomy, and pathology of the various systems that constitute the oral apparatus. The course consists of the following two units of instruction; (1) the biology and pathology of the salivary glands and their products and (2) the biology and pathology of the periodontal structures, Prerequisites: Undergraduate degree in basic science and permission of instructor Fall and Spring  
3 credits, Letter graded (A, A-, B+, etc.)

**HDO 563 Oral Biology and Pathology IV**

This course is the last of four comprehensive courses on molecular structure, biochemical and physiological function, developmental anatomy and pathology of the various systems that constitute the oral apparatus. Covers the biology and pathology of the sensory systems and the motor systems. Prerequisites: Undergraduate degree in basic science and permission of instructor. Admission to Graduate Health Sciences Center Program.  
3 credits, Letter graded (A, A-, B+, etc.)

**HDO 590 Research Projects in Oral Biology and Pathology**

Individual laboratory projects closely supervised by faculty members to be carried out in their research laboratories.  
3 credits, Letter graded (A, A-, B+, etc.)

**HDO 599 Graduate Research**

Original investigations undertaken with supervision of a faculty member.  
1-12 credits, Letter graded (A, A-, B+, etc.)

**HDO 690 Oral Biology and Pathology Seminars**

Research seminars by students, staff, and visiting scientists. Prerequisite: permission of instructor, Fall and Spring  
1 credit, Letter graded (A, A-, B+, etc.)

**HDO 695 Oral Biology and Pathology Teaching Practicum**

Practice instruction in the teaching of oral biology and pathology at the undergraduate level carried out under faculty orientation and supervision.  
3 credits, Letter graded (A, A-, B+, etc.)

**HDO 699 Thesis Research Oral Biology and Pathology**

Dissertation Research, Prerequisite: Advancement to Candidacy Passing, Fall, Spring, and Summer, 1-9 credits, Letter graded (A, A-, B+, etc.)

**HDO 700 Dissertation Research off Campus - Domest**

Prerequisite: Must be advanced to candidacy (G5). Major portion of research will take place off-campus, but in the United States and/or U.S. provinces. Please note, Brookhaven
National Labs and the Cold Spring Harbor Lab are considered on-campus. All international students must enroll in one of the graduate student insurance plans and should be advised by an International Advisor.

Fall, Spring, 1-9 credits, S/U grading

**HDO 702 Oral Pathology**
Covers the clinical and histopathologic manifestations of acquired, inherited and neoplastic diseases of the human oral cavity. Includes benign and malignant tumors of bone, odontogenic and non-odontogenic cysts and tumors, mucosal and salivary gland diseases, and oral manifestations of systemic diseases.
0 credit, Letter graded (A, A-, B+, etc.)

**HDO 704 Translational Oral Biology**
Covers the biochemical, physiological, microbiological and electronic principles involved in a variety of techniques used as aids in the diagnosis of oral diseases.
0 credit, Letter graded (A, A-, B+, etc.)

**HDO 705 Oral Medicine**
Introduces the principles of patient care related to stomatologic and dermatologic disease, neurologic abnormalities, hematologic disturbances, and the medically compromised patient. 16 course hours Prerequisites: HDO 701 0 credit, Letter graded (A, A-, B+, etc.)

**HDO 706 Oral Facial Genetics**
Focuses on the utilization, preparation and analysis of basic human genetics in clinical situations. Covers genetic disorders of the craniofacial complex and dentistry for the multiple handicapped patient. 30 course hours Prerequisite: HD 501 or permission of instructor
0 credit, Letter graded (A, A-, B+, etc.)

**HDO 707 Clinical Pharmacology**
Covers pharmacology in dental practice emphasizing clinical usage of antibiotics, sedatives, tranquilizers and analgesics. Drug interactions and side effects are discussed. 18 course hours Prerequisite: HD 608 0 credit, Letter graded (A, A-, B+, etc.)

**HDO 803 Oral Pathology Conference II**
Clinicopathologic case presentations and development of diagnostic skills. 11 course hours Prerequisites: HDO 702, HDO 703 0 credit, Letter graded (A, A-, B+, etc.)

**HDO 805 Summer Research**
SUMMER RESEARCH
0 credit, S/U grading

**HDO 821 Year IV Clinic: Oral Diagnostics**
The clinical continuation of HDO 704 in which the principals of oral diagnostics are applied to patient care.
0 credit, Letter graded (A, A-, B+, etc.)

**HDP**

**HDP 320 Introduction to Periodontal Research**
The student is taught various techniques and procedures used in current periodontal research. The student is expected to undertake a small research project implementing these techniques.
0-4 credits

**HDP 321 Introduction to Periodontal Research**
The student is taught various techniques and procedures used in current periodontal research. The student is expected to undertake a small research project implementing these techniques.
0-4 credits

**HDP 322 Introduction to Periodontal Research**
The student is taught various techniques and procedures used in current periodontal research. The student is expected to undertake a small research project implementing these techniques.
0-4 credits

**HDP 420 Research in the Biology and Pathology of Periodontium**
An independent research project under faculty supervision with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. The student is expected to prepare a report on the project and be able to discuss his or her work. Open to upper-division students. May be repeated up to a maximum of eight credits.
0-4 credits, S/U grading

**HDP 421 Research in the Biology and Pathology of Periodontium**
An independent research project under faculty supervision with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. The student is expected to prepare a report on the project and be able to discuss his or her work. Open to upper-division students. May be repeated up to a maximum of eight credits.
0-4 credits, S/U grading

**HDP 422 Research in the Biology and Pathology of Periodontium**
An independent research project under faculty supervision with emphasis on the principles of experimental design, data collection, evaluation of findings, and reporting of results. The student is expected to prepare a report on the project and be able to discuss his or her work. Open to upper-division students. May be repeated up to a maximum of eight credits.
0-4 credits, S/U grading

**HDP 501 Introduction to Periodontics**
This course utilizes lectures and problem-based cases to introduce the student to the field of periodontology. The first part of the course introduces the student to the clinical presentation of the normal periodontium, gingivitis and periodontitis. A series of lectures then introduces the student to basic patient care which positions them for their initial clinic rotations. Lectures continue with a discussion of histopathology of gingivitis and periodontitis, the bacterial composition of plaque in health and disease, and the pathologic mechanisms of bacterial virulence factors in altered connective tissue remodeling and alveolar bone loss. The potential activities of virulence factors including endotoxin are described in the context of the environmental influences of the gingival crevice and its contents. The response of the host elicited by plaque and bacterial virulence factors is then presented in a series of lectures which review the dynamics of gingival crevicular fluid, effector molecules (prostaglandins and cytokines), the neutrophil and innate defense factors, and the immune system.

The student should be able to determine the chief complaint treatment plan, render periodontal treatment (whether preventive or therapeutic) as outlined, evaluate the outcome of the treatment, and schedule periodontal maintenance. At the periodontal maintenance appointment, the student should be able to update the medical history, conduct a clinical examination to determine periodontal health status, obtain additional radiographs when necessary, review or institute corrective measures for plaque control and render adequate treatment when deemed necessary.

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

HDP 601 Diagnosis and Treatment of Periodontal Diseases I

Lectures, problem-based cases, laboratory, and clinical exercises are utilized to review the etiology, pathogenesis, treatment, and prevention of periodontal diseases. The first component of the course uses lectures, problem-based cases, and clinical exercises to provide students the knowledge and skills required to provide patient care. The next series of lectures uses the basic science component of the course as a foundation to discuss the etiology, pathogenesis, and treatment of various clinical conditions related to the periodontium including aggressive periodontitis, necrotizing ulcerative gingivitis, gingival overgrowth, herpetic and aphthous lesions. Lectures and problem-based cases are used to expose students to various surgical procedures including gingivectomy, gingivoplasty, and periodontal flap surgery.

The course will conclude in a series of treatment planning presentations in which students will utilize prior coursework to prepare an oral and written clinical case presentation.

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

HDP 621 Year II Periodontics Clinic

Applying didactic knowledge to actual clinical situations is required as the student examines the patient, formulates a treatment plan, and renders treatment. In this regard, the student should be able to determine the chief complaint of the patient, obtain a detailed past and present medical history, family medical history, past personal and family dental history, social history including patient's attitude towards his/her dentition and expectations of treatment. The student should be able to obtain vital signs and perform extra-oral (head and neck) and intra-oral examinations. The intra-oral examination will consist of a hard and soft tissue exam including the teeth and the periodontium. In addition, an examination of the patient's occlusion and the temporomandibular joints will be completed. The student is expected to interpret the radiographic findings detected in the panoramic, bite-wings and periapical radiographs, and determine whether they are normal or abnormal. The student will correlate the radiographic finding with the clinical findings and then arrive at the diagnosis of the patient's condition.

The student will identify the etiological factors (local and systemic) which contribute to the development of disease and prognosticate the patient's overall dental and periodontal condition as well as that of the individual teeth. Subsequently, the student should be able to formulate an adequate treatment plan, render periodontal treatment (whether preventive or therapeutic) as outlined, evaluate the outcome of the treatment, and schedule periodontal maintenance. At the periodontal maintenance appointment, the student should be able to update the medical history, conduct a clinical examination to determine periodontal health status, obtain additional radiographs when necessary, review or institute corrective measures for plaque control and render adequate treatment when deemed necessary.

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

HDP 701 Diagnosis and Treatment of Periodontal Disease II

At the conclusion of HDP 601 the basic surgical techniques used to treat periodontal diseases were introduced. HDP 701 will continue to discuss in greater depth the surgical component of periodontal therapy. Evidence-based presentations by cases and problem-based learning will discuss the indications, contraindications, and success rates reported for various surgical techniques including osseous grafts, hemisection, root resection, and guided tissue regeneration procedures. Aspects of periodontal wound healing will be discussed prior to the introduction of guided tissue regeneration procedures. The interrelationship between the periodontium and restorative dentistry will be examined including a discussion of dental implants and pre-prosthetic surgical procedures such as crown lengthening and ridge augmentation procedures. Periodontal plastic procedures performed to prevent or correct anatomical, developmental, traumatic, or plaque induced defects of the periodontium will be discussed. Common acute periodontal conditions will also be examined including a discussion on the diagnostic criteria utilized to differentiate between pathology of periodontal or endodontic origin. Referral guidelines including reasons and criteria for referral will be discussed in a case based format.

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

HDP 702 Periodontal Clinical Seminar

Lectures and problem-based cases are used to integrate and reinforce the didactic and clinical information covered in previous periodontal courses. An interactive forum is used in which students and periodontal faculty and residents discuss in greater depth advances achieved in periodontics and their relevance to clinical practice.

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

HDP 721 Year III Periodontics Clinic

Emphasizes the application of knowledge in the treatment of patients with advanced disease. 111 course hours

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

HDP 821 Year IV Clinic: Periodontics I

The fourth year component of clinical periodontics continues to develop and reinforce the student's ability to recognize and diagnose periodontal diseases. In a simulated general practice environment, the student provides comprehensive
care including periodontal therapy under the supervision of general dentistry faculty. This experience enables students to understand the role of general dentists in treating and managing patients presenting with various levels of disease including referral to a specialist when appropriate. Students are required to seek consultation with periodontal faculty when patients exhibit clinical and radiographic findings consistent with periodontitis such as probing depth measurements ≤ 5 mm. The periodontal faculty provides coverage for consultation, competency exams, and periodontal surgical procedures. 0 credit, Letter graded (A, A-, B+, etc.)

HDP 822 Year IV Clinic: Periodontics II

The fourth year component of clinical periodontics continues to develop and reinforce the student’s ability to recognize and diagnose periodontal diseases. In a simulated general practice environment, the student provides comprehensive care including periodontal therapy under the supervision of general dentistry faculty. This experience enables students to understand the role of general dentists in treating and managing patients presenting with various levels of disease including referral to a specialist when appropriate. Students are required to seek consultation with periodontal faculty when patients exhibit clinical and radiographic findings consistent with periodontitis such as probing depth measurements ≤ 5 mm. The periodontal faculty provides coverage for consultation, competency exams, and periodontal surgical procedures. 0 credit, Letter graded (A, A-, B+, etc.)

HDR 613 Removable Prosthodontics Technique

This course provides an understanding of basic diagnostic skills and restorative techniques used in complete and partial removable prosthodontics that will enable students to provide patient care in the discipline of removable prosthodontics. Prerequisites: Successful completion of all Year I dental courses and good standing as a Year II student. 0 credit, Letter graded (A, A-, B+, etc.)

HDR 622 Year II Radiology Clinic

In this clinical radiology course students apply the principles of intraoral imaging techniques and radiation safety presented in the didactic course Radiology I to clinical situations. Additional emphasis is placed on small groups discussions on radiologic anatomy, diagnosis, and treatment implications. Prerequisites: HDG521, HDR503, and good standing as a Year II student. 0 credit, Letter graded (A, A-, B+, etc.)

HDR 708 Advanced Esthetic Concepts

The treatment of dental esthetic issues is a necessary part of current dental education and comprehensive care given to patients. In this course, the students will familiarize themselves with the available approaches to creating harmony and beauty in a smile. The available cosmetic restorations on patients exhibit clinical and radiographic findings consistent with periodontitis such as probing depth measurements ≤ 5 mm. The periodontal faculty provides coverage for consultation, competency exams, and periodontal surgical procedures. 0 credit, Letter graded (A, A-, B+, etc.)

HDR 503 Radiology I

This course introduces the fundamental principles of radiation physics, radiation biology and protection, radiographic image production and interpretation as applied to dental radiographic imaging. Students gain knowledge of the intraoral and extraoral radiographic techniques commonly used in dental practice, of the principles and techniques of film processing, digital imaging, image quality assurance, and radiation protection; students learn to recognize normal intraoral and panoramic anatomy and to interpret and stage caries and marginal periodontal status based on their radiographic appearance. In small group rotations at the conclusion of the course, students learn to set up the operator for intraoral radiographic examinations, to take intraoral film radiographs on the mannequin, to develop radiographs using an automatic film processor and they review the appearance and causes of film imaging artifacts based on provided cases. 0 credit, Letter graded (A, A-, B+, etc.)

HDR 611 Fixed Partial Prosthodontics Technique

The purpose is to provide an understanding of basic diagnostic skills and restorative techniques in fixed prosthodontics that will enable students to begin patient care in Year III Clinic. Prerequisites: Successful completion of all Year I dental courses and good standing as a Year II student. 0 credit, Letter graded (A, A-, B+, etc.)

HDR 709 Oral and Maxillofacial Radiologic Interpretation

The Oral and Maxillofacial Radiologic Interpretation course consists of didactic and seminar components that build on the basic notions of image interpretation acquired in Radiology I and Year II Radiology Clinic courses. This course focuses on the interpretation of intraoral images utilized in dental practice, and the rationale, design and execution of intraoral radiographic examinations. Prerequisite: HDG 622, good standing as a Year III student. 0 credit

HDR 722 Year III Fixed Partial Prosthodontics Clinic

During this course the student treats patients who require relatively simple fixed prosthodontic therapy. The student should develop the judgment and insight necessary to provide fixed prosthodontic treatment, which is coordinated with the other disciplines of General Dentistry, Periodontics and Oral Surgery. Techniques performed will be based on skills in the preceding clinical and laboratory courses. Prerequisites: HDR 611, HDG 621 and good standing as a Year III student. 0 credit, Letter graded (A, A-, B+, etc.)

HDR 723 Year III Removable Prosthodontics Clinic
HDR 723 is the initial clinical experience in removable prostodontics and provides the student with the clinical experience in this discipline. Emphasis is placed on the development of clinical judgment and expertise gained through providing a range of clinical treatment modalities in removable prostodontics, such as: complete dentures, removable partial dentures, immediate dentures, over dentures, transitional and/or interim dentures, repairs, relines, and tissue treatments. Prerequisites: HDR 613, HDR 621 and good standing as a Year III student.
0 credit, Letter graded (A, A-, B+, etc.)

HDR 726 Year III Radiology Clinic
Year III Radiology Clinic builds on the basic technical and image interpretation material from Radiology I and Year II Radiology clinic, emphasizing adequate selection and execution of radiographic examinations; integration of imaging information in the treatment planning process; recognition of the need for any further imaging, additional examinations, or specialty consultation based on the patient's individual circumstances. Prerequisite: HDR 622 and good standing as Year III student.
0 credit, Letter graded (A, A-, B+, etc.)

HDR 804 Year IV Esthetic Dentistry Elective
This is an advanced course for those students who want more thorough knowledge, skill, and general preparation to practice esthetic dentistry. Various lecturers elaborate in their particular areas of expertise. Some years a prominent outside lecturer comes to give a continuing education course for faculty and outside dentists, for their benefit, but primarily for the benefit of the participants in this course. Prerequisites: HDR 611, HDR 613 and good standing as a Year IV student.
0 credit, Letter graded (A, A-, B+, etc.)

HDR 806 Advanced Imaging Techniques
Three-dimensional imaging is increasingly utilized in maxillofacial diagnosis and treatment planning. The advanced imaging course builds upon knowledge of conventional diagnostic imaging and gives students a working knowledge of current advanced imaging modalities utilized in dentistry: fan-beam CT, magnetic resonance imaging, ultrasound and, with particular emphasis, cone-beam CT (CBCT). Through a series of lectures, hands-on demonstrations, case discussions and an individual project assignment, students acquire a working knowledge of operation principles of advanced imaging modalities, CBCT anatomy, common incidental findings on CBCT images, selection criteria for CBCT imaging, and basic processing of the CBCT volume. Prerequisites: HDR 709, HDR 726 and good standing as a Year IV student.
0 credit, Letter graded (A, A-, B+, etc.)

HDR 807 Advanced Removable Prosthodontics
In Year IV, twelve hours are devoted to additional didactic instruction in clinical applications of removable prostodontics. These hours are used for the review and reinforcement of subjects previously taught, and the introduction of new concepts and techniques. The topics are selected to be of benefit to students who have begun to treat patients in this discipline. Prerequisites: HDR 611, HDR 613 and good standing as Year IV student.
0 credit, Letter graded (A, A-, B+, etc.)

HDS 601 Oral and Maxillofacial Surgery
The General Dentist must be able to establish a diagnosis and manage conditions which require oral and maxillofacial surgical procedures. In addition, the dentist must be able to perform basic surgical procedures within their scope and knowledge. This course provides a comprehensive overview of diseases and conditions, as well as the medical and surgical management provided by oral and maxillofacial surgeons for those conditions. In depth discussions on dentoalveolar surgical procedures provide a foundation for managing patients in the oral and maxillofacial surgery clinic courses in Year II, III and IV.
0 credit, Letter graded (A, A-, B+, etc.)

HDS 602 Pain Control I
The administration of local anesthesia is often a necessity in maintaining patient comfort during the delivery of dental care. This course covers all phases of the administration of local anesthetics, including the selection of appropriate agents and intraoral injection techniques based on the needs of the individual patient and the specific procedure to be performed. The course consists of lectures, videotapes, and small group clinic laboratory sessions.
0 credit, Letter graded (A, A-, B+, etc.)

HDS 603 Medical Emergencies I
The dentist must be prepared to manage medical emergencies that may occur during the course of dental
therapy. This course presents a number of medical emergencies that may be caused by specific disease states, medications administered in the dental office, or by anxiety related to the dental visit. Prevention of medical emergencies is emphasized, as well as diagnosis and management. The course consists of three lectures in a case based format, and encourages class participation.
0 credit, Letter graded (A, A-, B+, etc.)

HDS 604  Pain Control II
Dental patients often present to the office with a great deal of anxiety related to the treatment to be rendered. This course presents pharmacological and non-pharmacological methods that can be utilized to reduce patient anxiety in the dental office. The use of nitrous oxide/oxygen analgesia in the dental practice setting is emphasized. The course will consist of lecture, laboratory, and clinical sessions.
0 credit, Letter graded (A, A-, B+, etc.)

HDS 605  Physical Diagnosis: Introduction to Family Medicine
Since dentistry shares with all health professionals a common obligation to insure the welfare of their patients, all practitioners have the responsibility of evaluating the capability of their patients to withstand and successfully tolerate the anticipated proposed treatment regimens. Because of the varied effects that systemic diseases have on dental procedures, as well as the possible effect of dental treatment on systemic health problems, there is a need for dentists to be properly trained in the evaluation of their patients. This course introduces clinical medicine and its relationship to dentistry. It covers the clinical physical signs, symptoms, and laboratory values of the various organ systems in both health and disease, and the application of this knowledge to patients in ambulatory care and hospital settings, and emphasizes the oral manifestations and dental treatment modifications required by the medically compromised patient.
0 credit, Letter graded (A, A-, B+, etc.)

HDS 621  Year II Oral and Maxillofacial Surgery Clinic
In this introductory clinical course in oral and maxillofacial surgery, the student acquires clinical experience in taking a comprehensive outpatient oral and maxillofacial surgery history, takes pre-operative and post-operative vital signs, establishes and reviews patient surgical treatment plans, and applies basic science knowledge and clinical skills for uncomplicated single and multiple tooth and root removal and alveoplasty procedures, reviews post-operative care with the patient, and writes prescriptions for medications including analgesics and antibiotics.
0 credit, Letter graded (A, A-, B+, etc.)

HDS 701  Advanced Oral and Maxillofacial Surgery Treatment Planning
The course consists of three seminar sessions discussing a total of nine case studies of patients with significant medical conditions who require oral surgical care. The class is divided into groups of four students. Approximately three weeks prior to each scheduled seminar, case studies are distributed; the material includes the patient’s chief complaint, past medical history, physical examination and laboratory studies, as appropriate. Each group is responsible for preparing an oral presentation of the case and appropriate written handouts for the other members of the seminar group. The presentations should include: differential diagnosis, methods of diagnosis, presumptive diagnosis, current therapy and management for that diagnosis, and influence of the diagnosis on the oral surgery management.
0 credit, Letter graded (A, A-, B+, etc.)

HDS 703  Medical Emergencies II
The dentist must be prepared to manage medical emergencies that may occur during the course of dental therapy. This course presents a number of medical emergencies that may be caused by specific disease states, medications administered in the dental office, or by anxiety related to the dental visit. Prevention of medical emergencies is emphasized, as well as diagnosis and management. The course consists of a case based session with active class participation as a method of review of material presented in Medical Emergencies I (HDS 603).
0 credit, Letter graded (A, A-, B+, etc.)

HDS 721  Year III Oral and Maxillofacial Surgery Clinic
In this clinical course in oral and maxillofacial surgery, the student acquires additional clinical experience in taking a comprehensive outpatient oral and maxillofacial surgery history, takes pre-operative and post-operative vital signs, establishes and reviews patient surgical treatment plans, and applies basic science knowledge and clinical skills for uncomplicated single and multiple tooth and root removal and alveoplasty procedures, reviews post-operative care with the patient, and writes prescriptions for medications including analgesics and antibiotics.
0 credit, Letter graded (A, A-, B+, etc.)

HDS 803  Medical Emergencies III
Practice Development II consists of two main components. The first component is a lecture series designed to provide the student with an in-depth understanding of practice management concepts introduced in Practice Development I. The second component to this course is a group project and presentation. The class is divided into 20 groups, with each group to present an assigned topic. The topics cover a spectrum of issues/concepts necessary to start and operate a successful private practice.
0 credit, Letter graded (A, A-, B+, etc.)

HDS 821  Year IV Oral Surgery Clinic
In this clinical course in oral and maxillofacial surgery, the student independently formulates and reviews comprehensive patient surgical treatment plans, and receives experiences in the more complex minor outpatient surgical procedures including multiple extractions, alveoplasty, root recovery, biopsy technique, pre-prosthetic surgery, and infection management. Prior to completion of this course, the student will attain competence in the routine extraction of teeth.
0 credit, Letter graded (A, A-, B+, etc.)
HDS 822 Year IV Oral Surgery Clinic (Hospital Rotation)

In HDS 822 (Year IV Hospital Oral and Maxillofacial Surgery Rotation), students are exposed to advanced patient care in the clinic, emergency room, and operating room settings. At a minimum, students continue performing simple and surgical extractions in the outpatient setting, and may participate in more advanced cases depending upon availability in this rotation at University Hospital Medical Center. In addition, students participate in the management of patients receiving intravenous sedation and general anesthesia in the outpatient setting.
0 credit, Letter graded (A, A-, B+, etc.)

HFN

HFN 500 Survey of Nutrition Concepts

This online course is designed to introduce students to the fundamentals of nutrition science. Dietary sources and functions of macro and micronutrients are reviewed, as well as the basics of their metabolism and their impact on disease prevention, energy balance and common health problems. Prerequisite: Prior Undergraduate or Graduate Physiology course. Department consent required
3 credits, Letter graded (A, A-, B+, etc.)

HFN 502 Contemporary Issues in the Global Food System

Taking a multi-disciplinary approach, this online course will draw on everything from economics and ecology to sociology, anthropology, and the arts to demonstrate why agriculture and food are the single biggest way that humans touch the planet. Each week, we will examine topics ranging from organic agriculture, school lunch reform, food safety, animal welfare, hunger and food security, farm bill reform, farm-to-school efforts, urban agriculture, food sovereignty and local food economies. Students will gain the ability to evaluate and understand contemporary food issues as they relate to local and global challenges. Course materials will draw on current events, popular media and published research in food and drink, and also be guided by the student's own interests and particular career needs.
3 credits, Letter graded (A, A-, B+, etc.)

HFN 503 Nutrition in the Media: Making Sense of the Science

This online course will increase students understanding of the pervasive nature of food and nutrition messaging and the varied motivations behind them. Basic concepts related to nutrition and food science will be presented along with the skills and resources needed to critically evaluate future issues and trends in nutrition. Topics to be discussed include popular supplements, fad diets, common chronic diseases and related dietary recommendations, sustainable food practices and food labeling.
3 credits, Letter graded (A, A-, B+, etc.)

HFN 505 Current Topics: Maternal and Child Nutrition

This online course examines current trends in research on nutrition topics related to maternal and child health with a focus on evidence-based recommendations. Topics include fertility, intrauterine influences on development, maternal nutrition and infant feeding, breastfeeding, supplementation, asthma and allergic disease, nutrition and neurological development, gut microbiota in early life, links between early life and adult disease and environmental influences on early childhood feeding challenges. Prerequisite: HFN 500, or equivalent upon approval
3 credits, Letter graded (A, A-, B+, etc.)

HFN 510 Issues and Trends in Nutrition

This online course will provide an overview of current and emerging issues in food and nutrition with a focus on topics that impact nutrition recommendations for patients or the public. Students will explore how these trends may shape patient recommendations and barriers to implementing such recommendations. Students will also examine the disconnect between the research and current food policy, as well as existing evidence to support broad-based change to alleviate chronic disease risk and soaring health care costs. Prerequisite: HFN 500, or equivalent upon approval
3 credits, Letter graded (A, A-, B+, etc.)

HFN 512 Macronutrients and Metabolic Regulation

This online course is designed to promote an in depth understanding of the role of macronutrients in human health and nutrition. The digestion, absorption and metabolism of carbohydrates, proteins and fats and the relationship of energy metabolism will be extensively studied. Prerequisite: Admission to Graduate Nutrition Program or HFN 500
3 credits, Letter graded (A, A-, B+, etc.)

HFN 514 Micronutrients and Functional Nutrition

This online course is designed to promote an in depth understanding of the role of micronutrients in human health and nutrition. The digestion, absorption and metabolism of vitamins and minerals will be extensively studied. Prerequisite: Admission to Graduate Nutrition Program or HFN 500
3 credits, Letter graded (A, A-, B+, etc.)

HFN 515 Advanced Nutrition in Clinical Practice I

This online course will offer the student an opportunity to explore the role of diet and nutrition in the prevention, development and treatment of chronic disease ranging from nutritional deficiencies to autoimmune disease. Medical nutritional therapy for weight management, cardiovascular disease, bone health, oral and dental health, exercise, and potential drug and nutrient interactions are also included in the course topics. Prerequisite: HFN 500, or equivalent upon approval
3 credits, Letter graded (A, A-, B+, etc.)

HFN 516 Advanced Nutrition in Clinical Practice II
This online course will further explore medical nutrition therapy for gastrointestinal disorders, liver and pancreatic disease, metabolic disorders, psychiatric and behavioral disorders, pulmonary disease, renal dysfunction, cancer, metabolic stress, surgery and infection. The principles and practices of enteral and parenteral nutrition will be covered. Prerequisite: HFN 515
3 credits, Letter graded (A, A-, B+, etc.)

**HFN 520 Advanced Communications and Counseling**

This online course examines the role of professionals in promoting general health and wellness for individuals and groups in a community setting. Application of key theoretical models of behavior change and evidence-based intervention strategies are explored. Strategies and skills in counseling the individual client and group are examined and applied. Additional topics include techniques for communicating nutrition information to the public, the media and ensuring cultural competence. In addition to the required text, a purchase of a self-assessment tool for $25 is necessary for the student to meet the course requirements. Pre requisite: Admission to Graduate Nutrition Program
3 credits, Letter graded (A, A-, B+, etc.)

**HFN 525 Food Policy and Health Outcomes in the United States**

This online course is an overview of how food access and health outcomes are influenced by federal and local municipal public policy. The class will include a brief overview of the American political system followed by a deeper analysis of some specific public policies that can lead to food access inequities and adverse health outcomes including, but not limited to: taxation, land use and zoning, agriculture policy, environmental policy, education policy, economic inequality, media influences and cultural biases. At the conclusion of the semester, students will be asked to conduct a case study analysis of a recent federal or local food policy decision and asked to evaluate the ways in which the policy succeeded or failed in achieving its mission. How should success and failure be measured? How could the policy be improved? What unintended consequences were discovered? Is the policy scalable to other municipalities?
3 credits, Letter graded (A, A-, B+, etc.)

**HFN 530 Nutrition Management and Leadership**

This online course is designed to develop effective management skills in clinical nutrition services. The emphasis will be on the management of clinical services in highly regulated health care settings. Case studies and problem-based learning scenarios will complement online instruction and readings. Personnel issues, cost containment, benchmarking and management principles pertinent to clinical functions will be discussed and applied to real life situations. Accreditation and regulation processes will be covered in depth and the focus will be on the Joint Commission Accreditation process and the Center for Medicare and Medicaid Services. Admission to Master of Science in Nutrition Program(HFNMZ)
3 credits, Letter graded (A, A-, B+, etc.)

**HFN 570 Statistics**

This online course facilitates the development of the knowledge base to support statistical reasoning and the skills necessary to conduct statistical analyses appropriate in a health care or public health environment. This includes data collection methods, data cleaning, hypothesis testing, confidence limits, and statistical analysis procedures, such as analysis of variance, simple linear regression, and multiple regression. Additional topics include techniques for summarizing results of various statistical procedures, as well as designing appropriate tables and graphs. Prerequisite: Admission to Graduate Nutrition Program
3 credits, Letter graded (A, A-, B+, etc.)

**HFN 575 Research Methods in Nutrition**

This online course will facilitate the students ability to work independently to develop a research project. This process will include the following: formulation of a research question or hypothesis, study design and design of data collection methods. Issues regarding the protection of human subjects and protected health information will be discussed. This course will prepare the student to successfully complete a culminating project at a later date required for completion of the Master's degree in Nutrition. Prerequisite: Admission to Masters in Nutrition Program (HFNMZ); Pre or Corequisite: HFN 570
3 credits, Letter graded (A, A-, B+, etc.)

**HFN 578 Applications of Nutrition Research Literature**

This online course will facilitate development of the critical thinking skills necessary to become efficient consumers of nutrition-related research presented in the scientific literature and popular media. Students will learn to interpret current nutrition research by performing effective literature searches for nutrition research articles, recognizing the strengths and limitations of the research methods, and evaluating the quality of nutrition information in both the scientific literature and popular media. This course will begin with an overview of the challenges facing health professionals when delivering nutrition education to the layperson. Challenges to be discussed include media misrepresentation, health illiteracy and a Prerequisites: Admission to Masters in Nutrition Program (HFNMZ) and HFN 575
3 credits, Letter graded (A, A-, B+, etc.)

**HFN 580 Practical Applications**

Students enrolled in this online course will have the opportunity to choose between several types of culminating projects, including a research paper addressing a clinical question, a continuous quality improvement project addressing a clinical question or practice or an experiential practicum option. Students will work with a mentor who will supervise and guide the student as they select their project and topic and progress through the semester. Mentors will recommend a grade to the program coordinator after careful review of the finished project. Pre or Corequisite: HFN 578; Minimum completion of 27 HFN credits; Department consent required
3 credits, Letter graded (A, A-, B+, etc.)

**HFN 581 Continuing Practical Applications**
This course provides an opportunity for students to successfully complete the requirements of HFN 580 when additional time is required. Prerequisite: HFN 580; Department consent required
1-3 credits, Letter graded (A, A-, B+, etc.)

HHA

HHA 500 Healthcare Delivery System
Focuses on historic and current issues that impact the United States healthcare delivery system with a primary focus on how healthcare is delivered, organized, governed, and financed. There will be an overview of special populations and major diseases including epidemics, chronic illness, and acute illness, and the interrelated concepts of access, quality, and cost. Emphasizes the influence of an evolving healthcare delivery system on the practice of health informatics including meaningful use, Health Information Technology for Economic and Clinical Health (HITECH).
3 credits, Letter graded (A, A-, B+, etc.)

HHA 501 Biomedical and Health Informatics Essentials
Provides broad but significant immersion into the field of biomedical and health informatics. Emphasizes the clinical flow of data (acquisition, use, and storage of information in healthcare), biomedical research, informatics and public health, decision and cognitive science. Explores electronic health records, personal health records, personalized medicine, imaging, telemedicine, concepts of meaningful use, Health Information Technology for Economic and Clinical Health (HITECH), and American Recovery and Reinvestment Act (ARRA). Includes hands-on experience in the use of an electronic health record system.
3 credits, Letter graded (A, A-, B+, etc.)

HHA 502 Health Information Systems and HIT Essentials
Provides broad but significant immersion into the fields of health information systems and health information technology (HIT). Emphasizes systems analysis, clinical decision-support, integrated networking and distributed computing technologies, telemedicine applications, mobile applications, cloud computing, architecture and infrastructures, and database and systems administration.
3 credits, Letter graded (A, A-, B+, etc.)

HHA 503 Regulations, Confidentiality, Privacy and Security
Provides foundational knowledge in the laws, regulations, policies and procedures related to the confidentiality, privacy, and security on all levels of health-related information and infrastructures. Emphasizes interoperability, HIPAA/HITECH Privacy Rule and Security Standards, Code Set Rules, meaningful use, and IT security forensics.
3 credits, Letter graded (A, A-, B+, etc.)

HHA 504 Database Design and Development for Health Informatics Professionals
Covers relational database theory and development methodology. Emphasizes the progression through a health information systems development life cycle through the design, development, deployment, administration, testing, evaluation, and maintenance of a database. Introduces students to relational query languages (i.e. SQL).
3 credits, Letter graded (A, A-, B+, etc.)

HHA 505 Leadership and Management Essentials
Provides broad but significant immersion in organizational change, leadership, organizational behavior, project management and change management. Emphasizes healthcare project life-cycle, theoretical and applied strategies of managing change, communication and group dynamics, systems thinking, and strategic planning.
3 credits, Letter graded (A, A-, B+, etc.)

HHA 506 Research Design and Methodology for the Health Informatics Professionals
Provides in-depth overview of quantitative, qualitative, and mixed-methods research designs and methodologies. The student will analyze and evaluate the philosophical foundations, characteristics, strengths, and limitations of quantitative, qualitative, and mixed methods research designs and methodologies most appropriate to the practice of health informatics. Emphasizes critical review and techniques of applied research and evaluation.
3 credits, Letter graded (A, A-, B+, etc.)

HHA 507 Statistics for Health Informatics Professionals
Explores quantitative data analysis techniques utilized in patient safety research. Includes descriptive, inferential, and correlational statistics. Students will use available computer programs to conduct a variety of descriptive, inferential, and correlational statistical tests.
3 credits, Letter graded (A, A-, B+, etc.)

HHA 520 Program Management and Administration for Privacy and Security
Provides significant immersion into the knowledge and skills related to administration and management of healthcare organizations privacy and security programs. Emphasizes development of policies, protocols, and procedures for risk assessment and mitigation, integrity, and confidentiality of the patient, provider, employee, and business information.
Prerequisites: HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507
3 credits, Letter graded (A, A-, B+, etc.)

HHA 521 Physical and Technical Safeguards of Health Information
Provides significant immersion into the knowledge and skills related to the physical and technical privacy and security
safeguards utilized in all sectors of healthcare. Emphasizes risk assessment and mitigation, disaster recovery, business continuity, and standards regarding the maintenance, safeguarding, authorization access, release, and disposal of personal and confidential information. Prerequisites: HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 508
3 credits, Letter graded (A, A-, B+, etc.)

HHA 522 Forensic Analysis and Health Information Cybercrime

Provides significant immersion into the knowledge and skills related to forensic science and its application to the healthcare sectors digital environments. Emphasizes health information cybercrime; methods to uncover, collect, protect, and document evidence; and tools, techniques, and procedures to perform computer and cybercrime investigations. Prerequisites: HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 509
3 credits, Letter graded (A, A-, B+, etc.)

HHA 523 Legal and Regulatory Issues, External Environmental Assessment, Compliance

Provides significant immersion into the knowledge and skills related to the legal and regulatory issues specific to security and privacy personnel, external environmental assessments, and compliance. Emphasizes development of policies and procedures to receive, verify, authorize, process, and document various information requests; incident response team; compliance issues; federal breach notifications; employee training; and patient services. Prerequisites: HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 510
3 credits, Letter graded (A, A-, B+, etc.)

HHA 530 Clinical Decision Making and Process Improvement

Provides in-depth immersion into the knowledge and skills required to implement effective clinical decision making systems and participate in the development of clinical process improvements that support effective, efficient, safe, timely, equitable, and patient-centered care. Summer and Fall courses. Prerequisites: Summer and Fall courses including HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507.
4 credits, Letter graded (A, A-, B+, etc.)

HHA 531 Health Information Systems

Provides in-depth immersion into the knowledge and skills required to participate in the development or selection of an information system for clinicians; prepare clinicians prior to implementation and support them during implementation and ongoing operation of clinical information system; and evaluate the effectiveness of a system in meeting clinical needs. Summer and Fall courses. Prerequisites: Summer and Fall courses including HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507.
4 credits, Letter graded (A, A-, B+, etc.)

HHA 532 Leading and Managing Clinical Information Systems Change

Provides in-depth immersion into the knowledge and skills required to lead, manage change, and promote adoption associated with implementing clinical information systems. Summer and Fall courses. Prerequisites: Summer and Fall courses including HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507.
4 credits, Letter graded (A, A-, B+, etc.)

HHA 540 Health Data Management

Provides significant immersion into the knowledge and skills of the health management domains of data structure, data analysis, and outcomes. Prerequisites: Summer and Fall courses including HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507.
4 credits, Letter graded (A, A-, B+, etc.)

HHA 541 Information Technology and Systems

Provides significant immersion into the knowledge and skills of the health management domains Healthcare Information Systems and Information Management Planning. Summer and Fall courses. Prerequisites: Summer and Fall courses including HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507.
4 credits, Letter graded (A, A-, B+, etc.)

HHA 542 Advanced Organizational Leadership and Management

Provides significant immersion into the knowledge and skills related to the health management domains of Leadership, Resource Management, and Education and Training. Summer and Fall courses. Prerequisites: Summer and Fall courses including HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507.
4 credits, Letter graded (A, A-, B+, etc.)

HHA 550 Applied Healthcare Analytics

Focuses on the design and implementation of analytics to aide in the evaluation of health in populations. Explores the role of the health care analyst and analytics in the improvement of healthcare delivery and outcomes. Consists of on-line lectures, videos, and hand on assignments with data set sand analytic models. Prerequisites: Summer and Fall Courses. Prerequisites: HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507. Department permission required.
4 credits, Letter graded (A, A-, B+, etc.)

HHA 551 Big Data Technologies in Healthcare

Focuses on new and emerging Big Data technologies in healthcare, and the technologies that are utilized to process and manipulate data. Technologies such as Facebook, Yahoo, Google, LinkedIn, Twitter, and the Electronic Health Record will be studied. Discusses how healthcare data is organized, processed and analyzed using MATLAB. Consists of four weeks of reading, on-line discussions and assignments, hand-on use of analytical tools for analysis and data extraction,
and ten weeks of on-site lectures and hand-on lab sessions. Prerequisites: Summer and Fall Courses. Prerequisites: HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507. Department permission required.
4 credits, Letter graded (A, A-, B+, etc.)

HHA 552 Healthcare Data Visualization

Focuses on techniques and tools for designing and implementing effective visual representations of healthcare data. Students will learn how to analyze, parse, and represent quantitative and text data visually, and how to present data that is clutter free, engaging and easy to comprehend. Hands-on course utilizes Tableau as a presentation platform for the designing and building of data visualizations. Students will learn to express findings, answer questions, and to drive data supported decisions in healthcare. Consists of three weeks of campus lecture, twelve weeks of hand-on use of data visualization tools, assignments, lectures, and on-line discussions. Prerequisites: HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507. Department permission required.
4 credits, Letter graded (A, A-, B+, etc.)

HHA 584 Specialization Practicum I

First course in a three part experiential learning sequence designed to provide significant hands-on immersion into the practice of Health Informatics. This 120 hour practicum requires students to apply knowledge and skills acquired during the core and specialization course work. Prerequisite: Department Consent Required
4 credits, Letter graded (A, A-, B+, etc.)

HHA 586 Specialization Practicum II

Second course in a three part experiential learning sequence designed to provide significant hands-on immersion into the practice of Health Informatics. This 180 hour practicum is a progressive experimental learning experience. Students are expected to demonstrate increasing proficiency of integration and application of didactic and experiential learning with the goal of demonstrating mastery in Health Informatics. Prerequisite: HHA 584
6 credits, Letter graded (A, A-, B+, etc.)

HHA 588 Specialization Practicum III

Final course in a three part experiential learning sequence designed to provide significant hands-on immersion into the practice of Health Informatics. This 180 hour practicum is a progressive experimental learning experience. Students are expected to demonstrate increasing proficiency of integration and application of didactic and experiential learning with the goal of demonstrating mastery in Health Informatics. Prerequisite: HHA 586
6 credits, Letter graded (A, A-, B+, etc.)

HHA 599 Practicum Continuation

This course is for Applied Health Informatics students continuing with Practicum.
0 credit, S/F graded

HHH

HHH 500 The Health System

Explores the United States Healthcare System and is designed to facilitate an understanding of the history, basic structures, and operations of this expansive, diverse, and complex system. Introduces healthcare systems models, current and future trends in healthcare delivery, and systems outcome issues encountered by healthcare administrators across health services markets. All aspects of this course, with the exception of one required synchronous class meeting, will be presented and discussed via a distance learning format (using Blackboard).
4 credits, Letter graded (A, A-, B+, etc.)

HHH 501 Health Analytic Methods

Explores the importance of data analytics and facilitates understanding of analytic foundations. Explores the use of descriptive and inferential statistical analysis, common spreadsheet techniques for organizing and interpreting data, summarizing data using quantitative and qualitative measures, interpret variability in data, perform and interpret hypothesis testing, calculate probability, and how to apply statistical methods to real world examples. Computer exercises utilizing Microsoft Excel will be used in analyzing data and graphics. All aspects of this course, with the exception of one required synchronous class meeting, will be presented and discussed via a distance learning format (using Blackboard).
4 credits, Letter graded (A, A-, B+, etc.)

HHH 506 Health Quality and Performance Improvement

Explores healthcare quality management methodologies and examines the impact on healthcare productivity, quality and patient safety. Students will understand and utilize the concepts of performance improvement and continuous process improvement to improve product and service quality and competitiveness. Presents the history of quality improvement in healthcare and how quality concepts may be applied to improve clinical outcomes, patient safety, patient satisfaction, financial outcomes and employee and physician satisfaction. Emphasizes the critical importance of data analytics to monitor performance improvement activities. All aspects of this course, with the exception of one optional synchronous class meeting, will be presented and discussed via a distance learning format (Blackboard). Prerequisite: Second Year Fall Courses
2 credits, Letter graded (A, A-, B+, etc.)

HHH 508 Human Resources Management in the Health Sector

Explores the key and active role played by human resources in health services organizations. Introduces students to the role of the human resources function and to the challenges that health care managers and leaders will face. Emphasizes strategic human resources, talent management, performance management, the role of the regulatory environment in human resources and making the connection between financial and non-financial rewards and workforce management. All aspects
of this course, with the exception of one optional synchronous class meeting, will be presented and discussed via a distance learning format (Blackboard). Prerequisite: First Year Fall Courses
4 credits, Letter graded (A, A-, B+, etc.)

HHH 512 Health Finance II

Provides an advanced, case-based immersion into the core knowledge and skills of healthcare financial management. Emphasis will include but not be limited to the analysis of financial statements, balance sheets, statements of operation, statements of cash flow, bond ratings, strategic financial planning and the impact of the Affordable Care Act on healthcare finance. All aspects of this course, with the exception of one optional synchronous class meeting, will be presented and discussed via a distance learning format (Blackboard). Prerequisite: First Year Courses
6 credits, Letter graded (A, A-, B+, etc.)

HHH 520 Health Governance and Organizational Analysis

Provides students immersion into the study of organizational behavior, integrated with the study of organizational theory, to develop evidence-based approaches to analyze, manage, and lead change within healthcare organizations. Emphasizes groups and teams, diversity and cultural competence, individual attitudes and perceptions, communication, organizational change, cognitive processes, leadership, power and influence, stress and well-being, conflict management, decision making and negotiation skills, motivation, and strategies to improve employee and organizational success. All aspects of this course, with the exception of one optional synchronous class meeting, will be presented and discussed via a distance learning format (Blackboard). Prerequisite: First Year Fall Courses
4 credits, Letter graded (A, A-, B+, etc.)

HHH 530 Health Operations Management

Explores the terminology and tools for identifying and applying appropriate operations management (OM), decision analysis (DA) and operations research (OR) techniques to problems in healthcare. Exposes students to OM, DA and OR techniques in order to have practical experience solving problems in planning, scheduling, resource allocation, procedural decisions, and measurement of health care processes. All aspects of this course, with the exception of one optional synchronous class meeting, will be presented and discussed via a distance learning format (Blackboard). Prerequisite: First Year Courses
2 credits, Letter graded (A, A-, B+, etc.)

HHH 536 Health Law and Compliance

Explores various legal issues in healthcare and examines the ways in which such topics are analyzed, discussed, and resolved through the lens of policy, ethics, governance and law. Emphasizes the legal aspects of healthcare cost allocation, patient and human rights cases, and research. Explores how legislation, public policy and society shape health law. Examines issues regarding the intersection of the legal system, compliance, ethics and governance in the health sector. All aspects of this course, with the exception of one optional synchronous class meeting, will be presented and discussed via a distance learning format (Blackboard). Prerequisite: First Year Fall Courses
4 credits, Letter graded (A, A-, B+, etc.)

HHH 540 Health Management

Explores the use of healthcare management techniques required for effective planning and decision-making by today's healthcare managers. Concepts and theories from the general management literature will be analyzed and used to respond to emerging issues in the health care industry related specifically to the delivery of high quality, effective, patient-centered care. Uses field-based examples to illustrate the tools available to improve the quality of organizational decisions and processes to achieve fiscal sustainability. All aspects of this course, with the exception of one required synchronous class meeting, will be presented and discussed via a distance learning format (using Blackboard).
4 credits, Letter graded (A, A-, B+, etc.)

HHH 541 Health Strategic Planning and Management

Explores the fundamentals of strategic planning and leadership in the health sector. Emphasizes mission, vision, values, creating business plans and conducting SWOT analyses. Explores the impact of leadership style on the strategic planning process. All aspects of this course, with the exception of one optional synchronous class meeting, will be presented and discussed via a distance learning format (Blackboard). Prerequisite: Second Year Fall Courses
2 credits, Letter graded (A, A-, B+, etc.)

HHH 542 Health Leadership and Change: Comprehensive Capstone Project

Provides an in depth examination of leadership theory and the essential qualities required to successfully lead in the fluid and changing healthcare environment. Explores the key characteristics of successful health leaders, including the values that guide personal and professional behavior through the lens of a team based, interactive capstone research project. All aspects of this course, with the exception of one optional synchronous class meeting, will be presented and discussed via a distance learning format (Blackboard). Prerequisite: Second Year Fall Courses
2 credits, Letter graded (A, A-, B+, etc.)

HHH 564 Health Technology and Information Management
Explores the impact of business strategy, healthcare financing, stakeholders, measurement and user experience design on the successful adoption of healthcare information technologies (HIT). Examines the role of HIT in achieving institutional objectives, including improving quality of care, removing waste and enhancing healthcare system experience. All aspects of this course, with the exception of one optional synchronous class meeting, will be presented and discussed via a distance learning format (Blackboard). Prerequisite: First Year Courses 1 credit, Letter graded (A, A-, B+, etc.)

HHH 575 Long-Term Care in the Health Sector
Explores management techniques and standard practices in long-term care in the health sector. Emphasizes skilled nursing, home care, assisted living, adult day care, home health care and senior retirement communities. All aspects of this course, with the exception of one optional synchronous class meeting, will be presented and discussed via a distance learning format (Blackboard). Prerequisite: First Year Courses 2 credits, Letter graded (A, A-, B+, etc.)

HHH 585 MHA Residency I: Communication Skills and Interpersonal Effectiveness
This first of four in-person, faculty-led residential courses features an orientation to the MHA Program, including program faculty and members of the student cohort. Introduces the health industry, population health concepts, basic health management concepts, communication skills, importance of interpersonal relationships, professionalism and professional development. All aspects of this course will be delivered face-to-face, in person on campus. 1 credit, Letter graded (A, A-, B+, etc.)

HHH 586 MHA Residency II: Professionalism and Ethics
The second of four on-site, faculty-led residential courses features professionalism and ethics in the field of health management. Facilitates the application and integration of health management competencies gained in year one of coursework to realistic case studies using interdisciplinary team based methods. Students will continue to enhance communication skills, skills that encourage functional interdisciplinary teamwork and will develop presentation skills, problem solving skills, networking strategies, professional etiquette and professional development activities. Prerequisite: First Year Fall Courses 1 credit, Letter graded (A, A-, B+, etc.)

HHH 587 MHA Residency III: Leadership and Change
The third of four on-site, faculty-led residential courses features leadership and change in the field of health management. Facilitates the application and integration of health management competencies, gained in year one of coursework and practicum, to realistic case studies using interdisciplinary team based methods. Students will continue to enhance communication skills, skills that encourage functional interdisciplinary teamwork and will continue to develop presentation skills, problem solving skills, networking strategies, professional etiquette and professional development activities. Prerequisite: First Year Courses 1 credit, Letter graded (A, A-, B+, etc.)

HHH 588 MHA Residency IV: Comprehensive Capstone Project Team Presentations and Portfolio Development
The last of four on-site, faculty-led residential courses features comprehensive capstone project team presentations and portfolio development in the field of health management; and the opportunity to engage in an interactive presentation of their original research findings and recommendations to a panel of practicing health executives. Students will have the opportunity to integrate years one and two health management competencies in this realistic case study while engaging in interdisciplinary team based learning. Students will continue to enhance communication skills, skills that encourage functional interdisciplinary teamwork and will continue to develop presentation skills, problem solving skills, networking strategies, professional etiquette and professional development activities. Prerequisite: Second Year Fall Courses 1 credit, Letter graded (A, A-, B+, etc.)

HHH 589 Health Management Practicum and Seminar I
The first of two 90-hour field placements and accompanying faculty-led seminars that provide students with the opportunity to gain practical health management experience in the health services field. Placements strive to integrate administrative and management of health services by enhancing administrative skills under the direction and supervision of a faculty member and a knowledgeable mentor in an environment that promotes learning. Individual practicum placements will be completed on-site, in addition to an accompanying online seminar that will allow reflection and professional development based upon the individual experiences of students. Prerequisite: First Year Courses 3 credits, Letter graded (A, A-, B+, etc.)

HHH 590 Health Management Practicum and Seminar II
The second of two 90 hour field placements and accompanying faculty-led seminars that will provide students with opportunities to gain practical health management experience in the health services field. Placements strive to integrate administrative and management of health services by enhancing administrative skills under the direction and supervision of a faculty member and a knowledgeable mentor in an environment that promotes learning. Individual practicum placements will be completed on-site, in addition to an accompanying online seminar that will allow reflection and professional development based upon the individual experiences of students. Prerequisite: First Year Courses 3 credits, Letter graded (A, A-, B+, etc.)

HHH 599 Physician Practice Management
Explores the essential components of physician practice management including the structure and organization of solo practice and group practices. Includes operating and administrative issues, information management, health informatics, patient care systems, corporate compliance, physician credentialing, finance and management reporting, risk management, operations, practice valuation, marketing and planning, leadership, compensation, governance, billing, coding, medical malpractice, collections, reimbursement mechanisms, human resource management, physician compensation and quality of care. Explores the factors influencing physician practices, physician-hospital relationships, leadership and governance. All aspects of this course, with the exception of one optional synchronous class meeting, will be presented and discussed via a distance learning format (Blackboard). Prerequisite: First Year Courses 2 credits, Letter graded (A, A-, B+, etc.)

HHM

HHM 500 Fundamentals of Molecular Biology Techniques

Covers main techniques used in molecular biology, including direct and amplified nucleic acid-based methods. Emphasizes basic principles behind each test, interpretation of results, advantages and limitations of each methods, and type of specimen required for each test. Addresses the importance of quality control, biosafety and proper decontamination procedures to ensure accurate data for proper patient diagnosis. 3 credits, Letter graded (A, A-, B+, etc.)

HHM 510 Advanced Molecular Biology Laboratory

This 15-week laboratory course consists of a 6-hour weekly lab, during which the students perform hands-on activities covering the main molecular biology techniques used for the diagnosis of infectious and genetic diseases, determination of cancer markers, and forensic testing. Techniques include nucleic acid isolation, purification and quantification, DNA separation, amplification and sequencing. Prerequisite: HHM 500 3 credits, Letter graded (A, A-, B+, etc.)

HHM 511 Application of Molecular Biology in Diagnostics

Introduces the applications of molecular biology techniques in diagnostics of various diseases. The students will learn the molecular mechanisms underlying infection by microorganisms, genetically inherited diseases as well as cancer, and how molecular techniques can help with the diagnosis and prognosis of these diseases. Addresses the advantages and limitations of different techniques available, as well as the importance of quality control. Prerequisite: HHM 500 3 credits, Letter graded (A, A-, B+, etc.)

HHM 516 Application of Molecular Biology in Research

Focuses on various applications of molecular biology techniques in both basic and translational medical research. High emphasis will be placed on the understanding of the molecular pathways involved in various diseases, including cancer, genetically inherited diseases and infection by microorganisms. The students will learn how the power of molecular genetic analysis is used to identify, isolate and characterize genes that cause and contribute to the etiology of human diseases. Explains how various molecular biology techniques can be applied to diagnose diseases and to develop potential therapeutics. Discusses the advantages and limitations of different techniques, as well as the importance of quality control. Prerequisite: HHM 500, 510, 511 3 credits, Letter graded (A, A-, B+, etc.)

HHM 520 Flow Cytometry Laboratory

This laboratory course consists of 30 hours of hands-on activities, and covers the main techniques used in the flow cytometry laboratory. This laboratory will be given once weekly, on weekends or weeknights. Students will perform numerous immunophenotyping techniques, including stem cell quantitation, hematologic and non-hematologic neoplasms, minimal residual disease, fetal hemoglobin and cell functional assays. Students will learn how to do quality assurance and instrumentation maintenance, and will gain hands-on experience with the application software used by flow cytometers. Prerequisite: HHM 500, 510, 511 Co-requisite: HHM 520 1 credit, Letter graded (A, A-, B+, etc.)

HHM 521 Flow Cytometry Methods and Applications

Introduces students to the applications of flow cytometry techniques and their applications in the diagnosis and prognosis of human diseases including leukemia and lymphoma, primary immunodeficiency diseases, Human Immunodeficiency Virus (HIV) infection detection of paroxysmal nocturnal hemoglobinuria, cytometry clinical transplantation, leukocyte functional assays, cell apoptosis, CD34 positive stem cell enumeration, immunologic dysfunction, and DNA and cell proliferation measurements in cancer cells. Prerequisite: HHM 500, 510, 511 Co-require: HHM 520 2 credits, Letter graded (A, A-, B+, etc.)

HHM 531 Cytogenetics Methodology and Applications

Focuses on the impact of chromosome abnormalities on the diagnosis, prognosis and treatment of cytogenetic syndromes. Covers basic cytogenetic concepts and laboratory techniques required for the detection of various diseases, including sex chromosome abnormalities, the fragile X syndrome, and structural and numerical chromosome abnormalities, with special emphasis on the mechanisms underlying these syndromes. Prerequisite: HHM 500, 510, 511, 516, 520, 521, 540, 545 2 credits, Letter graded (A, A-, B+, etc.)

HHM 540 Laboratory Operations in Molecular Biology
Covers the main principles of laboratory standards used in the molecular diagnostics, including pre- and post-analytical operations, test result documentation, quality assurance and quality control. Considers the importance of safety, regulation and standards. Prerequisite: HHM 500, 510, 511, 516, 520, 521
2 credits, Letter graded (A, A-, B+, etc.)

**HHM 545 Ethics in the Laboratory**

Reviews professional guidelines for ethical conduct and approaches to ethical dilemmas for laboratory scientists. Explores ethical issues, including responsible research conduct, good laboratory practice, and research with human subjects. Discusses ethical principles in genetics and genetic engineering; advance directives, confidentiality, informed consent, patient rights, and Health Insurance Portability and Accountability Act of 1996 (HIPAA). All aspects of this class will be presented and discussed via a distance learning format using Blackboard. Prerequisite: HHM 500, 510, 511, 516, 520, 521
2 credits, Letter graded (A, A-, B+, etc.)

**HHM 551 Research Methods and Scientific Writing**

Introduces students to the basic concepts of biomedical research. Emphasizes critical evaluation of published scientific literature, and how to plan, design and conduct a research study. Presents the proper use of the different statistical methods required to analyze research data. Teaches students how to communicate effectively as scientists by writing high quality scientific papers, giving oral presentations, and putting together a research proposal. The students will apply these concepts to their own writing. Prerequisite: HHM 500, 510, 511, 516, 520, 521
3 credits, Letter graded (A, A-, B+, etc.)

**HHM 570 Journal Club on Medical Molecular Biology**

Students participate in critical analysis of scientific journal articles from a diverse set of topics related to the field of molecular biology including molecular diagnostics, molecular microbiology, cancer research, genetically inherited diseases and genomics, among others. In each session, a student presents the essential information of the paper including background, significance, hypothesis, experimental methods, results and conclusions by means of a narrated Powerpoint presentation. Following the presentation, the rest of the class discuss and analyze the content of the paper in an online discussion forum. Prerequisite: HHM 500, 510, 511, 516, 520, 521, 540, 545
1 credit, Letter graded (A, A-, B+, etc.)

**HHM 581 Clinical Practicum in Molecular Diagnostics**

This is a two week fulltime practicum in a Clinical Molecular Diagnostics lab designed to give students supervised practical application of what was learned in classes. The students will be provided with on-the-job training while experiencing the work environment in a clinical diagnostic laboratory. Prerequisite: HHM fall year two courses.
2 credits, Letter graded (A, A-, B+, etc.)

**HHM 583 Clinical Practicum in Flow Cytometry**

This is a two week fulltime practicum in a Clinical Flow Cytometry lab designed to give students supervised practical application of what was learned in classes. The students will be provided with on-the-job training while experiencing the work environment in a clinical diagnostic laboratory. This will be repeatable course, for additional course credits. Prerequisite: HHM fall year two courses.
2 credits, Letter graded (A, A-, B+, etc.)

**HHM 585 Clinical Practicum in Cytogenetics**

This is a two week fulltime practicum in a cytogenetics diagnostics lab designed to give students supervised practical application of what was learned in classes. The students will be provided with on-the-job training while experiencing the work environment in a clinical diagnostic laboratory. Prerequisite: HHM fall year two courses.
2 credits, Letter graded (A, A-, B+, etc.)

**HHM 596 Capstone Project in Medical Molecular Biology**

Culminating experience designed to for students to choose a topic of interest within the area of molecular diagnostics, flow cytometry, or cytogenetics and further investigate it by means of a systemic literature review. Topics can be problems identified during clinical practice or learned in classes. Students will need to develop a comprehensive proposal that will be reviewed by faculty. Prerequisite: HHM fall year two courses.
2 credits, Letter graded (A, A-, B+, etc.)

**HHO**

**HHO 322 Instrumentation in Polysonomography**

Provides a fundamental understanding and practical application of various instruments used in the sleep laboratory setting. Discusses use, function, indications, contraindications, cleaning, and proper trouble shooting techniques of the various instruments with hands on practice during class. Covers the theory and practical application of instrumentation and sensors utilized in the sleep laboratory. Prerequisite: Admission to Upper Division Polysonomographic Program
2 credits

**HHO 324 Therapeutic Modalities in Sleep Medicine**

Provides the student with a thorough understanding of various therapeutic modalities used in the treatment of sleep disorders. Includes indications, contraindications and protocols for the titration of various forms of noninvasive ventilation including Continuous Positive Airway Pressure (CPAP); Bi-level Positive Airway Pressure (Bi-level); Auto-Servo Ventilation (SV); and oxygen therapy. Discusses Cognitive Behavioral Therapy (CBT); phototherapy; chronotherapy; positional therapy; and pharmacological treatment. Prerequisite: Admission to Upper Division Polysonomographic Program; HHO 322
3 credits

HHO 326 Introduction to Dental Sleep Medicine
Covers basic principles of dental sleep medicine and oral appliance therapy as a therapeutic option for the management of sleep disorder breathing. The student will gain knowledge of the pathophysiology of sleep disordered breathing, anatomy and physiology of the head and neck, and dental anatomy and occlusion. Discusses theory, indications, contraindications, the risks, benefits, and potential side effects of oral appliance therapy. Students will learn about dental impressions and the construction of oral appliances, appliance selection, appliance insertion, and patient management. Presents protocol and use of oral appliance titration in the sleep lab setting, combination therapy of oral appliances with Positive Airway Pressure (PAP), and the implementation of alternative dental therapies. Prerequisite: Admission to Upper Division Polysomnographic Program HAT 320, HAT 306, HAT 470, HHO 322

4 credits

HHO 342 Sleep Disorder Pathophysiology
Provides an understanding of the International Classification of Sleep Disorders (ICSD). Reviews currently accepted sleep disorders including the names; alternate names; diagnostic criteria; features; clinical and pathophysiological subtypes; predisposing and precipitating factors; onset; course; complications; objective findings; and current therapies. Prerequisite: Admission to Upper Division Polysomnographic Program; HHO 322

3 credits

HHO 420 Polysomnographic Technology Management
Provides advanced understanding of the American Academy of Sleep Medicine (AASM) guidelines for sleep facility accreditation and management. Includes standards and policies related to personnel; patient care; equipment; record storage; staging and scoring of sleep studies; and report generation. Discusses emergency policies and procedures, quality assurance programs, and facility layouts. Upon successful completion of this course student would understand the daily operations and functions of the sleep center or laboratory at a managerial level. Prerequisite: Admission to Upper Division Polysomnographic Program; HAT 470

3 credits

HHO 430 Pediatric Polysomnography
Provides a thorough understanding of pediatric polysomnography. Includes normal sleep across the various age groups; proper clinical evaluation of the pediatric patient; testing procedures; differential diagnosis of pediatric sleep disorders; and appropriate therapeutic interventions. Prerequisite: Admission to Upper Division Polysomnographic Program; HHO 342

3 credits

HHO 440 Introduction to Electroencephalography

Provide the student with a basic understanding of Electroencephalography (EEG). Topics include terminology; technical specifications; instrumentation; recording specifications; and currently accepted standards and guidelines for various diagnostic EEG procedures. Students will gain knowledge and experience in evaluating normal and abnormal EEGs. Prerequisite: Admission to Upper Division Polysomnographic Program; HAT 470, HHO 322

3 credits

HHO 460 Polysomnographic Technology Board Review
Designed to improve students' critical thinking skills and prepare them for the Board of Registered Polysomnographic Technologists (BRPT) exam. Students will learn about the professions credentialing levels and requirements as well as the New York State Office of Professions licensing system. Includes mock exams including sample exams offered by the BRPT. Prerequisite: Admission to Upper Division Polysomnographic Program; HHO 430

1 credit

HHO 470 Basic Polysomnographic Technology Clinical
Provides full time training in the basics of polysomnographic technology. It familiarizes students with instrumentation; setup and calibration; recording and monitoring techniques; documentation; professional issues; and patient-technologist interactions related to polysomnographic technology. Presents opportunities to observe, perform (under supervision), and evaluate sleep studies. Prerequisite: Admission to Upper Division Polysomnographic Program; HAT 470

4 credits

HHO 471 Intermediate Polysomnographic Technology Clinical
Provides full time training in Intermediate polysomnographic technology including implementation and titration of oxygen therapy and positive airway pressure (PAP). Covers different modes of PAP therapy including Continuous Positive Airway Pressure (CPAP); Bi-level Positive Airway Pressure (bi-level); and Bi-level Auto-AV ventilation. These therapeutic modalities will enhance the students understanding of the various forms of sleep disordered breathing (SDB) and the appropriate treatment and recommended protocols. Provides patient contact including patient education and proper mask fitting techniques. Presents opportunities to observe, perform (under supervision) and evaluate therapeutic sleep studies. Prerequisite: Admission to Upper Division Polysomnographic Program; HHO 324, HHO 470

4 credits

HHO 472 Advanced Polysomnographic Technology Clinical
This full time clinical provides training following the AASM Manual for the Scoring of Sleep and Associated Events. The clinical will provide experience in report generation of diagnostic polysomnograms, PAP titrations, and oxygen titrations. Students will observe, assist, perform (under supervision) and evaluate diagnostic and therapeutic sleep studies. This clinical provides contact time for students with
physicians, laboratory manager(s), and patients. Prerequisite: Admission to Upper Division Polysomnographic Program; HHO 470, HHO 471
4 credits

HHO 476 Pediatric Polysomnographic Clinical
Provides full time clinical training in pediatric polysomnography. Familiarizes students with instrumentation setup and calibration; recording and monitoring techniques; documentation; professional issues; and patient-technologist interactions related to pediatric polysomnography. It provides the student opportunities to interact and develop their communication skills for educating the patient, the patient’s family and/or legal guardian. Presents opportunities to observe, perform (under supervision) and evaluate pediatric sleep studies. Prerequisite: Admission to Upper Division Polysomnographic Program; HHO 430
3 credits

HHO 479 Clinical Teaching in Polysomnographic Technology
Full time clinical provides the student teacher an opportunity to develop and use educational skills and techniques in the clinical setting. Builds upon educational techniques covered HAT 410. Prerequisite: Admission to Upper Division Polysomnographic Program; HAT 410, HHO 470, HHO 471, HHO 472
4 credits

HHO 480 Basic Electroencephalography Clinical
Provides full time clinical training in the basics of electroneurodiagnostic technology. Familiarizes students with instrumentation setup and calibration; recording and monitoring techniques; documentation; professional issues; and patient-technologist interactions related to electroneurodiagnostic technology. Students will observe, assist, perform (under supervision) electroencephalograms. Prerequisite: Admission to Upper Division Polysomnographic Program; HHO 440
3 credits

HHO 488 Polysomnographic Technology Management Clinical
Provides full time clinical training in daily operations of a sleep disorders facility including the patient flow process from acceptance guidelines to follow-up care. Exposes student to various quality assurance programs, facility policies and procedures, archiving data, interscorer reliability, and patient education in a sleep disorder facility. Prerequisite: Admission to Upper Division Polysomnographic Program; HHO 420
4 credits

HM 501 First Year Medicine (Spring)
First year medical students (Spring) January - June.
0 credit

HM 600 Second Year Medicine (Fall)
Second year medical students (Fall) August - December.
0 credit

HM 601 Second Year Medicine (Spring) January - June.
0 credit

HM 700 Third Year Medicine (Fall)
Third Year Medicine (Fall) June - December.
0 credit

HM 701 Third Year Medicine (Spring)
First term as a Third year medical students (Spring) January - June.
0 credit

HM 800 Fourth Year Medicine (Fall)
Fourth Year Medicine (Fall) June - December.
0 credit

HM 801 Fourth Year Medicine (Spring)
First term Fourth year medical students (Spring) January - May
0 credit

HM 888 Continuation of Fourth Year Medicine
0 credit

HM 901 Elective Research
Review sessions for transfer and continuing students entering the third year clerkships in the School of Medicine.
0 credit

HM 910 Continuation of Studies
General Medicine review sessions for transfer and continuing students returning to School of Medicine studies.
0-3 credits

HM 999 VISIT STUD ELECTIVE
Students visiting from other medical schools to complete an elective at University Hospital
0-12 credits, S/U grading

HMC

HMC 331 Legal and Ethical Issues in Health Care
Introduction to ethics, its application to the health care profession, and to some of the major ethical and legal
doctrines that affect health care professionals. The doctrines are discussed by addressing specific problem situations. Some of the topics are the right to refuse medical, mental, and social care; the right to life and its limits (e.g., suicide, euthanasia, abortion); the right to receive care; and access to and evaluation of health care delivery. Since the goal of the course is to sensitize professionals to legal and ethical issues like those they will be called upon to resolve, students are expected to take part in class discussions and do readings. 3 credits

HMC 361 Literature and Medicine
Explores major themes of medical care and illness as presented in works of poetry, prose, and drama. Includes personal and ethical dilemmas confronted by doctors; special characteristics and discourse of the medical setting; the experience of being ill; philosophical, social, and spiritual dimensions of the clinical encounter; and the search for meanings in medical events. 3 credits

HMC 487 Independent Study
3 credits

HMF

HMF 88 Continuing Dietetic Internship Program
This course is for continuing dietetic interns. 0 credit, S/F graded

HMF 89 Dietetic Internship Program
The Dietetic Internship program emphasizes nutrition therapy and community nutrition. Dietetic interns routinely interact with physicians, medical residents, nurses and nurse practitioners at interdisciplinary case conferences, grand rounds, walking rounds and informal educational activities. This internship is accredited by the Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics. The program is limited to those students accepted into the program through the DICAS process. 0 credit, S/F graded

HMH

HMH 401 INTRO MEDICAL PHYS
Introduction to Medical Physics 3 credits

HMO

HMO 401 RESEARCH IN PERINATA
HMO 402 RSH PRJ IN OB/GYN

HMO 490 IND STUDY CYTOGENET
HMO 492 IND STUDY REP BIO

HMP

HMP 425 INDEP RES NEUROPSYCH
HMP 430 INDEPENDENT STUDY
HMP 575 Appl Clin Neuropsych
HMP 598 INDEP RES NEUROPSYCH
HMP 599 INDEPENDENT STUDY

HNC

HNC 304 Social Justice in Health Care
This course will explore the role of social determinants in health outcomes. Current theories on health disparities will be examined. Strategies to decrease these disparities will be discussed and methods to promote social justice within the current health care environment will be presented. 2 credits

HNC 305 Healing and the Arts
This course examines the interface between the arts and nursing to provide insight into the human condition and the healing process. Theoretical and evidence-based foundations that inform the field of the arts in healthcare will be discussed. Students will have the opportunity to view, interpret, reflect on and create works of art, including paintings, sculpture, literature, film, music and movement. These topics will be explored to develop and enhance the skills of observation, analysis, empathy, self-reflection, and interpersonal (nurse-patient) and interprofessional (nurse-colleague) relationships, which are essential in supporting the healing process and providing holistic patient-centered care to diverse populations. 2 credits

HNC 310 Pathophysiology
This is a foundation course introducing the student to the basic mechanisms of disease and pathophysiology. 3 credits

HNC 333 Fundamentals of Pharmacology
This course explores the basic scientific principles that underlie the mechanisms of action of the major drug classifications and their effect on pathophysiologic processes. A prototype approach is used to assist students in organizing and learning the major drug classifications. A major emphasis is placed on development of clinical decision-making and critical thinking skills.
designs are introduced. Critical appraisal skills are developed in nursing. Theoretical frameworks, research terminology and development and use of an evidence-based practice in nursing research. It emphasizes the application of healthcare policy as it relates to the nurses role as patient advocate, and professional change agent. Pre-requisite: Successful completion of HNC 499.

2 credits

HNC 462 Clinical Immersion in Emergency Nursing

This elective clinical course explores the role of the registered nurse and the interprofessional health care team in the Emergency Department environment.

2 credits

HNC 469 Population Health Nursing

This required clinical course is designed to prepare the student to work with families, groups, communities and populations across both the lifespan and the continuum of health care environments. Case studies and community based learning activities are provided to enhance critical reasoning and encourage independent decision making. Clinical experiences are designed to give the student an opportunity to utilize evidence based nursing interventions to provide health promotion and disease prevention. Advanced communication skills are utilized in caring for diverse population in collaboration with interprofessional team members. Pre-requisite: Successful completion of HNC 499.

6 credits

HNC 470 Nursing Management Practicum

This course explores leadership and management theoretical frameworks and principles related to nursing practice. The nurses role(s) and responsibilities as a manager across diverse health care settings are considered. Students will analyze and evaluate the implementation of a quality improvement project developed to address an identified nursing management problem.

6 credits

HNC 471 Nursing Management Practicum for BS/MS Students

This course explores leadership and management theoretical frameworks and principles related to nursing practice. The nurses role(s) and responsibilities as a manager across diverse health care settings are considered. Students will analyze and evaluate the implementation of a quality improvement project developed to address an identified nursing management problem.

3 credits

HNC 479 Transitions into Professional Practice

This course provides a basic understanding of the healthcare policy in the United States. Emphasis is placed on the application of healthcare policy as it relates to the nurses role as patient advocate, and professional change agent. The impact of specific policies and regulating agencies upon nursing practice is also examined.
This course presents the concepts and skills needed to transition to professional nursing practice. Organizational structure, time management and conflict resolution strategies are presented. Team-building and interdisciplinary communication principles are emphasized. The nurse's role as a health care advocate and resource manager are investigated. Delegation and prioritization principles are reinforced, and legal/ethical issues related to nursing practice are explored. Career planning and professional growth are encouraged through the development of a professional resume.

3 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HNC 480</td>
<td>Clinical Immersion in Operative Nursing</td>
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<tr>
<td>HNC 481</td>
<td>Clinical Immersion: Undergraduate</td>
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<td>The focus of this course is to expand, deepen, or</td>
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<td></td>
<td>enrich clinical practice skills relevant to area</td>
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<td>of clinical practice. Learning opportunities,</td>
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<td>in clinical and simulated settings, will</td>
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<td>promote integration of clinical competencies,</td>
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<td>leadership, and practice inquiry. Emphasis will</td>
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<td>be placed on self-directed and perceptive</td>
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<td>learning experiences, in-depth clinical</td>
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<td>skill building and decision-making, continuity</td>
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<td>of care, and inter-professional collaboration.</td>
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<td>1-6 credits</td>
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<tr>
<td>HNC 482</td>
<td>Directed Studies</td>
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<td>A directed study is a student-initiated elective</td>
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<td>course in which an area of interest in nursing</td>
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<td>is explored with the guidance of a faculty</td>
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<td>mentor. The directed study courses do not replace</td>
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<td>required or core courses for the major.</td>
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<td>1-4 credits</td>
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<tr>
<td>HNC 483</td>
<td>Clinical Immersion in Perioperative Nursing II</td>
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<td>This elective clinical course provides the</td>
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<td>opportunity to apply the knowledge, skills and</td>
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<td>attitude required of a professional nurse in the</td>
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<td>perioperative environment. Communication and</td>
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<td>collaboration of the interprofessional health</td>
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<td>care team is emphasized. Students will work with</td>
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<td>diverse populations of patients and their</td>
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<td>families in the perioperative environment under</td>
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<td>the direct supervision of an RN preceptor.</td>
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<td>HNC 489</td>
<td>Global Immersion: Undergraduate</td>
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<td>The focus of this course is to expand, deepen, or</td>
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<td></td>
<td>enrich nursing practice relevant to global</td>
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<td>aggregates, families and communities. Learning</td>
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<td>opportunities will promote integration of</td>
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<td>competencies, leadership, and practice inquiry</td>
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<td>within the context of a global experience.</td>
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<td>Cross-cultural learning experiences will provide</td>
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<td>opportunities for student reflection on the</td>
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<td>interconnections, interdependence and</td>
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<td>inequalities they encounter during these</td>
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<td>experiences. Emphasis will be placed on</td>
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<td>interprofessional collaboration within an</td>
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<td>international environment.</td>
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<tr>
<td>HNC 491</td>
<td>Patient and Family Centered Care: Partners on</td>
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<td>Health Care</td>
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<td>This course is designed to provide a theoretical</td>
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<td>and conceptual framework for</td>
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<td>HNC 492</td>
<td>Complementary and Alternative Therapies</td>
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<td>This course is an introduction to complementary</td>
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<td>and alternative health practices. A core value</td>
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<td>of nursing practice is holistic care of the</td>
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<td>patient. The student will examine uses of</td>
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<td>complementary and alternative therapies in</td>
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<td>health promotion and disease prevention as well</td>
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<td>as in acute and chronic health management</td>
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<td>through evidence based practice and research.</td>
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<td></td>
<td>Implications of complementary and alternative</td>
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<td>therapies on culture, health disparities,</td>
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<td></td>
<td>society, economics, safety, legal, ethical and</td>
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<td>health policy issues will be explored and</td>
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<td>discussed.</td>
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<tr>
<td>HNC 493</td>
<td>End of Life Care of the Adult Patient</td>
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<td>This course focuses on nursing care of the</td>
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<td>adult patient and family as they approach</td>
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<td>end of life. It will emphasize a framework that</td>
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<td>allows the patient to die peacefully, with</td>
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<td>dignity and in the context of their own lives</td>
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<td>while honoring the patient's end-of-life</td>
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<td>decisions. The content will address several</td>
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<td>themes including advocacy, ethical, cultural,</td>
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<td>and financial considerations, and</td>
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<td></td>
<td>interprofessional collaboration.</td>
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<td>HNC 495</td>
<td>Palliative, Hospice and End of Life Care</td>
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<td></td>
<td>This course is focused on improving end-of-life</td>
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<td>care for clients and their families to enable</td>
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<td>the client to die peacefully, with dignity and</td>
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<td>in the context of their own lives, while</td>
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<td>honoring their end-of-life choices. The content</td>
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<td>will emphasize the goals of palliative care</td>
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<td>with attention on clinical skills and</td>
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<td>interprofessional collaboration, providing the</td>
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<td>licensed student confidence in caring for the</td>
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<tr>
<td></td>
<td>client/family who is nearing death. Topics will</td>
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<td>include clinical aspects of symptom management,</td>
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<td>communication skills, grief, spirituality, and</td>
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<td>self-care. Additional themes include advocacy,</td>
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<td>ethical challenges, regulatory policy,</td>
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<td>cultural and fiscal considerations.</td>
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<td>HNC 499</td>
<td>Clinical Epidemiology-Population Based</td>
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<td>An introduction to epidemiologic principles will</td>
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<td></td>
<td>be applied to major public health problems in</td>
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<td>the community. This course will introduce</td>
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<td>nursing students to the concepts and methods</td>
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<td>used to evaluate health problems in population</td>
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<td>groups. The student will be introduced to the</td>
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<td>basic concepts of epidemiology and briefly</td>
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<td>focus on statistical concepts that are used to</td>
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<td>summarize health data in the study of health and</td>
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<td>disease problems in the community.</td>
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</table>
HND 598 School of Nursing Enrollment of Course Work

For students who need to enroll in course work before they attend the orientation
0-12 credits, S/U grading

HND 612 Theories of Applied Science

This course will provide the graduate DNP student with a systematic overview of concepts and theory as a foundation for guiding the transfer of research knowledge into practice and optimizing health system performance. Analytical and evaluative skills are developed through examination and critique of nursing concepts, models, frameworks and science-based theories.
3 credits, Letter graded (A, A-, B+, etc.)

HND 615 Genomics

This course will provide the student with the knowledge to recognize the role of genetic factors in the prevention, causation and treatment of human disease. Focus will be placed on translation of genetic discoveries into interventions that improve health outcomes
3 credits, Letter graded (A, A-, B+, etc.)

HND 625 Health Care Policy and Social Justice

This course will provide the student with the knowledge to examine the interface among federal, state and local governments, from a historical to a contemporary perspective. The focus will be on correlating health care to health policy, fiscal implications and access and delivery of health care. An emphasis will be placed on contemporary issues, problems and controversies that effect social, economic, political and environmental perspectives.
3 credits, Letter graded (A, A-, B+, etc.)

HND 635 Biostatistics

This course will provide the student with knowledge of statistical approaches utilized in epidemiological studies. Analysis of risk factors and disease data will be emphasized. Applying epidemiologic methods to critically evaluate the evidence used in clinical decision making will be an important aspect of this course.
3 credits, Letter graded (A, A-, B+, etc.)

HND 640 Principles of Epidemiology and Global Health

This course will provide the student with a systematic and selective overview of conceptual approaches and research findings related to the impact of social contexts on the health of populations.
3 credits, Letter graded (A, A-, B+, etc.)

HND 645 Large Data Analyses

This course provides an overview of the major public access large scale healthcare data sets available on federal, state, and local levels. This course facilitates students development in the application of analytical methods used to answer research questions. A major focus of the course will be the query and access of large data sets including: 1) variable identifications and definitions, 2) record layouts, 3) data set sizes and analysis restrictions, 4) coding methods, 5) data manipulation using R, Statistical Package for the Social Science (SPSS), Statistical Analysis System (SAS) and developing a working knowledge of statistical programs.
Prerequisites: Biostatistics (HND 635); Epidemiology (HND 640)
3 credits, Letter graded (A, A-, B+, etc.)

HND 647 Doctoral Research Seminar

This course will provide the student with the academic skills necessary to build the scientific foundation for the advanced practice of nursing. Theory and evidence-driven projects will be developed in collaboration with interdisciplinary mentors. Peer review skills will be refined.
4 credits, Letter graded (A, A-, B+, etc.)

HND 650 Systems Theory

This course will provide the student with the knowledge and skills necessary to
3 credits, Letter graded (A, A-, B+, etc.)

HND 655 DNP Synthesis I

This course will provide the student with the opportunity to work closely with a doctoral faculty advisor to refine, implement and evaluate a scholarly project.
5 credits, Letter graded (A, A-, B+, etc.)

HND 665 DNP Synthesis II

This course will provide the student with experience in developing and evaluating health and educational interventions. Students will gain experience in creating and evaluating assessment tools, data bases, and data analysis using data from their DNP projects and an educational evaluation exercise. Preliminary work also will entail preparing for dissemination of their DNP project. Prerequisite: HND 655
6 credits, Letter graded (A, A-, B+, etc.)

HND 675 DNP Synthesis III

This course will emphasize the differentiation of complex and comprehensive level of advanced practice leading to optimal health outcomes for a selected population. Clinical experiences will facilitate the development of a culminating project that demonstrates applications for better patient care.
Prerequisite: HND 665
6 credits, Letter graded (A, A-, B+, etc.)

HND 682 Doctor of Nursing Practice (DNP) Continuing Coursework

Doctor of Nursing Practice (DNP) Continuing Coursework
1-5 credits, S/U grading
HNG

HNG  501  Primary Care

The student explores and analyzes common health problems as experienced by women from young adulthood through old age. Optimum client outcomes are emphasized in the development of client specific management plans. The clinical components of primary care are practiced in women’s health care settings. An emphasis is placed on application of evidence-based screening guidelines. Prerequisite(s): HNG 540, HNG 588. CoRequisite: HNG 515
3 credits, Letter graded (A, A-, B+, etc.)

HNG  506  Evidence-based Health and Wellness of the Contemporary College Student

This interdisciplinary course focuses on understanding the health and wellness continuum of the contemporary college student, identifying the at risk student, and examining models for intervention and student support. Concepts including developmental theory, health beliefs and culture will be explored in relation to topics such as health maintenance, mental health substance abuse, violence, and the needs of the student with cognitive and physical disabilities.
2 credits, Letter graded (A, A-, B+, etc.)

HNG  507  Parenting: Anticipatory Guidance

This course critically examines issues, knowledge and skills which facilitate optimal parent/child health outcomes. Concepts from humanities, health related and nursing sciences provide a knowledge based for parenting and parent education. Anticipatory guidance, as a therapeutic nursing intervention, will be the focus of the course.
2 credits, Letter graded (A, A-, B+, etc.)

HNG  513  Advanced Health Assessment of the Neonate and Infant

This course will be centered on assessment of physical, behavioral and cognitive development of the neonate and infant within the context of their family and environment. Emphasis will be placed on the development of diagnostic reasoning and clinical decision making skills as essential components of the advanced practice role.
3 credits, Letter graded (A, A-, B+, etc.)

HNG  514  Advanced Theory and Clinical Practice in Perinatal Women’s Health I

This is the first of four sequential courses focusing on advanced nursing practice specializing in perinatal/women’s health throughout the life span focusing on gynecological health. Analytical thinking and clinical decision making within collaborative practice will be implemented so that therapeutic nursing interventions result in desired outcomes in the ambulatory care of women. Nursing theory and research for health promotion and management of women within the context of a multicultural society will be addressed. Realistic problems within a collaborative practice will be explored and developed to facilitate acquisition of skills in reasoning, problem solving, decision making and critical reflections relevant to the specialization of Perinatal Women’s Health.
4 credits, Letter graded (A, A-, B+, etc.)

HNG  515  Advanced Health Assessment

Provides diagnostic reasoning and a regional approach to physical exam in the health assessment process. Functional health patterns and biomedical models constitute the theoretical framework.
3 credits, Letter graded (A, A-, B+, etc.)

HNG  517  Advanced Theory and Clinical Practice in Psychiatric/Mental Health I

Provides a theoretical and conceptual foundation for the advanced practice of Psychiatric/Mental Health Nursing. The concept of mental health is based upon a comprehensive understanding of human interaction with the environment through a synthesis of arts, sciences, humanities and life experience. Emphasis will be placed on the importance theory plays in defining knowledge necessary to assess human behavior, diagnose illness and to implement and evaluate treatment related to psychopathology. Prerequisite: HNG 515, HNG 557;
4 credits, Letter graded (A, A-, B+, etc.)

HNG  518  Advanced Theory and Clinical Practice in Child Health I

The focus of this course is the development of critical thinking and clinical decision making as essential components of the advanced practice role. The major emphasis will be on analyzing and exploring common primary health problems of infants, children, and adolescents and developing optimum client outcomes that promote cost-effective, quality health care within the context of a multicultural society. Health assessments will integrate the concepts, theories, and principles underlying advanced assessment, diagnosis, and management of common health problems of infants, children, and adolescents within the context of their families and communities. Knowledge of related health sciences, nursing theories, and research are drawn upon to further develop the framework for the advanced practice role.
4 credits, Letter graded (A, A-, B+, etc.)

HNG  519  Advanced Theory and Clinical Practice in Adult Gerontological Health Nursing I

Clinical problem solving and decision making skills essential to assessing and diagnosing health status, health risks, illness and functional/dysfunctional health patterns of adults and their families. Resources, strengths and limitations are used as a basis to collaborate with adult patient families and/or other health care providers to plan therapeutic interventions to promote, maintain or restore health. Prerequisite: HNG 515. CoRequisite: HNG 540, HNG 588
4 credits, Letter graded (A, A-, B+, etc.)

HNG  520  Selected Topics in Childhood Morbidity
The course is designed to provide the graduate student preparing for an advanced practice role with a broad knowledge base of the physiological and pathophysiological changes that occur during the maturational process from conception through childhood. Emphasis will be placed on the maintenance of wellness and prevention of illness through nursing interventions, perinatal education, and anticipatory guidance.

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

HNG 522 Advanced Topics in Fetal and Neonatal Pathophysiology

This course is designed to provide the graduate student preparing for an advanced practice role in neonatal health with a broad knowledge base of the physiological and pathophysiological changes that occur during the developmental process from conception through infancy. Emphasis will be placed on the development wellness and prevention of illness through nursing interventions, perinatal education, and anticipatory guidance.

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

HNG 524 Advanced Theory and Clinical Practice in Perinatal Women's Health II

This is the second of four clinical courses that will prepare the student to provide primary care to women during the childbearing years. The conceptual frameworks of wellness, health promotion and disease prevention, and the effective use of communication strategies in documentation, patient education and advocacy will be emphasized. This course develops the paradigm of family-centered, community-based health care, which respects multicultural traditions and lifestyle variations. Students are prepared for the advanced practice role of the Perinatal Women's Health Nurse Practitioner in the provision of care to women from preconception through the prenatal, intrapartum, postpartum phase of childbearing. The normal neonate and breastfeeding content is also included in this course.

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

HNG 525 Advanced Health Assessment Child Health

This course is designed to enable the student to refine and further develop clinical decision making skills while conducting health assessment of infants, children, and adolescents. Emphasis will be placed on assessment of the child's physical, emotional and cognitive development within the context of the family and environment.

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

HNG 527 Advanced Theory and Clinical Practice in Psychiatric/Mental Health Nursing II

This is the second of four sequential clinical core courses for advanced practice in psychiatric mental health nursing. This course is designed to provide the knowledge and skills inherent in the diagnosis of mental disorders as related to etiology, psychopathology, practice and research. A variety of treatment models that provide a foundation for psychotherapeutic interventions will be explored, analyzed and applied to meet the needs of a complex and culturally diverse society. Prerequisite: HNG 515, HNG 517

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

HNG 528 Advanced Theory and Clinical Practice in Child Health Nursing II

This is the second of four sequential courses designed to expand and integrate concepts, theories and principles underlying advanced assessment, diagnosis and management of common health problems of children within the context of their families and communities. This course prepares students for the advanced practice role of the pediatric nurse practitioner/clinical nurse specialist in an environment conducive to analytic skills, clinical decision making and reflections on practice in a multi-cultural society. Clinical and evidence based research is drawn upon to further develop the framework for the advanced practice role. Prerequisites: HNG 518, HNG 525; corequisites: HNG 504, HNG 520, HNG 540

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

HNG 529 Advanced Theory and Clinical Practice in Adult Gerontological Health Nursing II

This is the second of four sequential courses designed to develop advanced clinical decision making skills in diagnosing, treating and managing a patient/family with health problems and dysfunctional patterns. Therapeutic interventions are planned to promote health, treat illness, manage chronic disease and limit disabilities by enhancing problem solving and self care abilities of adults and their families. The implementation and evaluation components of managed care are emphasized. Prerequisites: HNG 519.

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

HNG 534 Advanced Theory and Clinical Practice in Perinatal Women's Health III

This is the third of four sequential clinical courses designed to integrate nursing theory and research into the health promotion and management of the high risk perinatal family within the context of a multicultural society. Emphasis is placed on the prevention and early detection of reproductive risk, therapeutic nursing intervention and communication necessary to improve the quality of perinatal outcomes. The nursing process is utilized to manage high risk reproductive and perinatal complications.

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

HNG 537 Advanced Theory and Clinical Practice in Psychiatric/Mental Health Nursing III

Provides the knowledge and skills in the nursing diagnosis and therapeutic nursing interventions of mental disorders in special populations in a multicultural society. The variety of therapeutic roles for the Nurse Practitioner in Psychiatric/Mental Health nursing will be analyzed to provide a framework for advanced practice. Prerequisite: HNG 515, HNG 527

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

HNG 538 Advanced Theory and Clinical Practice in Child Health Nursing III
This is the third of four sequential courses and is designed to provide knowledge and analytical skills to meet the health care needs of children and families with chronic and/or medically fragile conditions in a complex and culturally diverse society. There will be precepted clinicals that expose students to clinical decision making in collaborative practice environments. Health care management will be linked with evidence based clinical research findings that promote optimal health care for children and families within complex interrelated health care systems.

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

HNG 539 Advanced Theory and Clinical Practice in Adult Gerontological Health Nursing III

This is the third of four sequential courses designed to develop advanced clinical decision making skills in diagnosing, treating and managing a patient/family with health problems and dysfunctional patterns. Emphasizes coordination, consultation, and interaction components of case management to promote, maintain and/or restore health in groups of adult patients in primary care settings. Clinical research is drawn upon to further develop the framework for the advanced practice role. Pre-requisites: HNG 529, HNG 540 and HBP 511

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

HNG 540 Clinical Pharmacology (All Tracks)

Clinical applications of major classifications of drugs. Emphasizes pharmacology and therapeutics. Addresses clinical correlations with applications to special populations using case studies. Prescription writing, patient compliance to drug therapy and application of this knowledge for special patient population.

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

HNG 541 Statistical Methods and Scholarly Inquiry

Nursing research will be examined as the scientific foundation for nursing. An emphasis will be placed on research competencies for advanced practice nurses, including understanding nursing research methods and strategies in order to evaluate research results for applicability to practice. An understanding of statistical techniques will be integrated into the course. Published nursing research studies will be evaluated for scientific merit and clinical feasibility, with a focus on evidence based practice.

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

HNG 542 Neonatal Clinical Pharmacology

The course is centered on pharmacotherapeutic management of selected neonatal conditions with major emphasis on the development of diagnostic reasoning and clinical decision making skills as essential components of the advanced practice role. Learners will explore and analyze pharmacologic issues relevant to the neonate and infant in the intensive care and primary care settings as well as potential consequences of maternal drug therapy on the fetus. Currency in knowledge of the principles of clinical and basic pharmacology is an essential prerequisite of this course.

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

HNG 543 Applications of Clinical Nursing Research

This is the second of two courses designed to examine research in relation to practice and primary care delivery in nursing and health care. The relationships among theory, nursing phenomena, nursing practice, and nursing research will be examined. Models and methods of research translation in nursing, including research dissemination and implementation, program planning and evaluation, cost effectiveness and analysis will be studied. An emphasis will be placed on understanding nursing research methods and strategies in order to evaluate research results for applicability to practice and to design projects for evaluating outcomes of practice. Published nursing research studies will be evaluated for scientific merit and clinical feasibility, with a focus on evidence-based practice. The course will culminate with students developing and writing an integrative review.

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

HNG 547 Advanced Theory and Clinical Practice in Psychiatric/Mental Health Nursing IV

This is the culminating course of the four sequential advanced clinical courses. It is designed to provide students with the opportunity to implement and evaluate the role of the nurse practitioner within the nursing discipline in a specialty area of their choice. Emphasis will be placed on integration of the advanced nursing practice role, nursing research, and the leadership component in the clinical specialization. Concepts of clinical practice as they relate to the specialty area in a culturally diverse society will be explored and analyzed so that therapeutic nursing interventions are linked with patient outcomes. Students will be expected to implement their role as advanced nurse practitioner, terminate and evaluate the experience. Prerequisites: HNG 515, HNG 537

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

HNG 548 Advanced Theory and Clinical Practice in Child Health Nursing IV

This is the last of a series of four courses designed to provide students an opportunity to evaluate critically the role of the Pediatric Nurse Practitioner and Clinical Nurse Specialist in the care of children and their families. Care will be taken to integrate advanced nursing practice, leadership, management, research and expert clinical practice in diagnosing, treating and managing children with particular healthcare needs. Concepts of clinical practice will be related to outcome based research. Prerequisite: HNG 538

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

HNG 549 Advanced Theory and Clinical Practice in Adult Gerontological Health Nursing IV

A capstone experience for students to be mentored by faculty in experiencing full enactment of the roles and functions of the NP. Students identify the patient populations with whom they plan to practice, negotiate for placement in a self selected practice setting, implement the roles and functions of NP, and evaluate the terminal experience in advanced practice in adult health care. Prerequisites: HNG 539

5 credits, Letter graded (A, A-, B+, etc.)
HNG 551 Psychopharmacology
This course will center on pharmacotherapeutic management of selected psychiatric conditions. Students will explore and analyze pharmacologic issues relevant to the psychiatric client in ambulatory, acute care and chronic care settings. Prerequisites: HNG 540, HNG 557 or a pathophysiology course.
2 credits, Letter graded (A, A-, B+, etc.)

HNG 554 Advanced Theory and Clinical Practice in Perinatal Women's Health Nursing IV
This is the culminating nursing practicum course designed to provide students with the opportunity to implement and critically evaluate the role of the nurse practitioner in women's health. Emphasis will be placed on the integration of advanced nursing practice, research, and leadership/management concepts in the clinical specialization. Issues in clinical practice related to the specialty area will be explored as well as the effect of therapeutic nursing interventions on patient/family outcomes.
4 credits, Letter graded (A, A-, B+, etc.)

HNG 555 Professional Issues in Midwifery Practice
The course will focus on professional organizations for nurse-midwifery practice and provides an opportunity for professional socialization and responsibility. This course provides a culminating review of all clinical aspects of nurse midwifery practice and standards. An emphasis on the mastery of core competencies and standards of practice of the ACNM will be integrated throughout the course.
1 credit, Letter graded (A, A-, B+, etc.)

HNG 557 Clinical Perspectives of Pathophysiology/Neurophysiology
This course is based on the core concepts in Neurophysiology which are integral to the clinical practice of advanced psychiatric mental health nurses. A major focus involves understanding the neurophysiological theories of major psychiatric/mental health disorders, neurological assessment. Prerequisites: HNG 515, HNG 517, HNG 527, or permission of instructor.
3 credits, Letter graded (A, A-, B+, etc.)

HNG 560 Sexual Health across the Lifespan
This course will provide the skills to assess, coordinate, consult, promote, maintain and/or restore sexual health in diverse patient populations. Emphasis is placed on risk reduction and the promotion of sexual well-being.
3 credits, Letter graded (A, A-, B+, etc.)

HNG 561 Clinical Immersion: Graduate
The focus of this course is to expand, deepen, or enrich advanced practice skills relevant to area of clinical specialization. Learning opportunities, in clinical and simulated settings, will promote integration of advanced practice competencies, leadership, and practice inquiry. Emphasis will be placed on self-directed and precepted learning experiences, in-depth clinical skill building and decision-making, continuity of care, and interprofessional collaboration.
1-5 credits, Letter graded (A, A-, B+, etc.)

HNG 564 Adv Thry Cln Pract in Neonatal Health Nursing II: Primary Care High Risk Infant
This course focuses on the advanced assessment skills required to provide primary care to high risk infants and their families within the context of a pluralistic society. The biological and psychosocial aspects are studied as a basis for nursing practice. Emphasis is placed on the role of the neonatal nurse practitioner in improving the provision of primary care and follow-up services to high risk infants with the purpose of decreasing mortality and morbidity rates and improving the quality of life for these infants after discharged from the intensive care nursery.
3 credits, Letter graded (A, A-, B+, etc.)

HNG 565 Adv Thry Cln Pract in Neonatal Health Nursing II: Primary Care High Risk Infant
This course focuses on the advanced assessment skills required to provide primary care to high risk infants and their families within the context of a pluralistic society. The biological and psychosocial aspects are studied as a basis for nursing practice. Emphasis is placed on the role of the neonatal nurse practitioner in improving the provision of primary care and follow-up services to high risk infants with the purpose of decreasing mortality and morbidity rates and improving the quality of life for these infants after discharged from the intensive care nursery.
6 credits, Letter graded (A, A-, B+, etc.)

HNG 568 The Addicted Client: Strategies for Nursing Assessment and Intervention
This course is designed to provide a theoretical and conceptual foundation needed to address clients with a broad range of substance abuse and addiction patterns on the health-illness continuum. It utilizes concepts from a number of nursing specialties in data collection, diagnosis, planning, intervention and evaluation through the case study method. The critical evaluation of socio-cultural beliefs, values and attitudes toward the addicted client will also be explored.
2 credits, Letter graded (A, A-, B+, etc.)

HNG 569 Advanced Theory and Clinical Practice in Neonatal Health Nursing I: The Childbearing Family
This is one of four sequential courses designed to focus on advanced assessment of the childbearing family. All components of this comprehensive assessment are integral to the development of differential diagnoses and management plans for high risk neonates and their families and will form the foundation for clinical decision-making required in the advanced practice role of the neonatal nurse practitioner. Parenting and the needs of the family in the context of a pluralistic society are emphasized.
3 credits, Letter graded (A, A-, B+, etc.)
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<th>Course Code</th>
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<td>Independent Studies</td>
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<td>HNG 572</td>
<td>Advanced Theory and Clinical Practice in Family Health Nursing I</td>
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<td>Advanced Theory and Clinical Practice in Family Health II</td>
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<td>HNG 574</td>
<td>Advanced Theory and Clinical Practice in Family Health Nursing III</td>
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<td>HNG 575</td>
<td>Advanced Theory and Clinical Practice in Family Health Nursing IV</td>
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<td>HNG 577</td>
<td>Families: Theories and Interventions for Advanced Nursing Practice</td>
<td>3</td>
<td>Letter</td>
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This course is designed to provide a theoretical and conceptual framework for the NP in developing therapeutic interventions for individuals and their families. Adult and adolescent developmental theories, the major family theories and crisis intervention theory are examined. Selected family typologies are used to illustrate theoretical concepts. Emphasis is placed on assessment, interventions and development of referral resources.

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<td>HNG 581</td>
<td>Midwifery I</td>
<td>3</td>
<td>Letter</td>
<td>(A, A-, B+, etc.)</td>
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This course is designed to provide a theoretical and conceptual framework for the NP in developing therapeutic interventions for individuals and their families. Adult and adolescent developmental theories, the major family theories and crisis intervention theory are examined. Selected family typologies are used to illustrate theoretical concepts. Emphasis is placed on assessment, interventions and development of referral resources.
HNG 582  Continuing Course Work
Continuing Course Work
1-5 credits, S/U grading

HNG 585  Midwifery II
This course, based on principles of maternal and fetal physiological development, will introduce the student to the midwifery management process in the primary care of women during the antepartum period. The conceptual frameworks of wellness, health promotion and disease prevention, and the effective use of communication strategies in documentation, client education and advocacy will be emphasized. This course develops the paradigm of family-centered, community-based midwifery care, which respects multicultural traditions and lifestyles. Prerequisites: HNG 581, Corequisites: HNG 515, HNG 501.
4 credits, Letter graded (A, A-, B+, etc.)

HNG 586  Midwifery III
This course emphasizes the normalcy of labor and birth as a physiologic and developmental process and prepares students to assume responsibility for management of care of the woman and fetus during the intrapartum period. The use of conceptual frameworks of wellness, health promotion and disease prevention will be emphasized. Communication and collaborative strategies will be emphasized to build upon the strengths of families and communities and minimize technological intervention. Prerequisites: HNG 585
5 credits, Letter graded (A, A-, B+, etc.)

HNG 587  Midwifery IV
This is the fourth in a sequence of courses designed to prepare the midwife for clinical practice. The organizing framework of this course is continuity of care, emphasizing family centered, community-based midwifery care and the normalcy of birth and recovery. Prerequisites: HNG 586, Corequisite: HNG 555
5 credits, Letter graded (A, A-, B+, etc.)

HNG 588  Clinical Pathobiology
This is a graduate level pathobiology course designed to build on undergraduate physiology. The student will explore physiology in greater depth and learn how physiologic changes translate into pathologic changes in selected disease states. Focuses on the clinical aspects of the body system, including relevant underlying biochemistry structure, or pathophysiology at the organ, tissue, cell or molecular level.
3 credits, Letter graded (A, A-, B+, etc.)

HNG 599  Therapeutic Touch
Therapeutic touch assessment skills will be taught so that the practitioner may use therapeutic touch clinically to assist in reduction of pain and anxiety, promote relaxation and facilitate the body's natural restorative process.
1 credit, Letter graded (A, A-, B+, etc.)

HNH 501  Health Illness in a Cross Cultural Perspective
This course examines the role of history and culture in healing and medicine. The consideration and utilization of cultural practices and beliefs when designating health education programs will be stressed.
3 credits, Letter graded (A, A-, B+, etc.)

HNH 503  Organizational Leadership and Role Transformation
This course focuses on the knowledge and skills needed to understand the economies of care, business principles, and how to work within and affect change in systems. It will also prepare students to conceptualize a new advanced practice role in the discipline of nursing. Leadership, including theory, leadership styles, contemporary approaches and strategies, will be explored.
3 credits, Letter graded (A, A-, B+, etc.)

HNH 504  Quality Improvement, Safety and Healthcare Technologies
As a foundational course for graduate level nurses, this course prepares students to apply quality improvement methods and analyze information to affect safety and quality of care and to improve patient outcomes. The use of current and emerging technologies to support safety, quality and value based care and quality across diverse settings will be emphasized.
3 credits, Letter graded (A, A-, B+, etc.)

HNH 505  Health Care Policy and Advocacy
This course examines how policies shape the structure and financing of health care, influence social determinants of health, and affect health outcomes. Participation in the development and implementation of institutional, local, state, and federal policy will be an expectation of this course. The role of nurse as advocate for vulnerable populations, the profession, and health-promoting policies will be explored.
2 credits, Letter graded (A, A-, B+, etc.)

HNH 510  Facilitating Adult Learning
This course focuses on the role and perspective changes in adulthood. Concepts of self and maturity, learning theories, cognition, creativity, interests, attitudes and motivation will be explored. Issues, strategies and methods for facilitating adult learning will be emphasized. Theory is considered in relation to nursing education. Prerequisites: HNH 502 or HNH 502
3 credits, Letter graded (A, A-, B+, etc.)

HNH 511  Curriculum Design, Implementation and Evaluation in Nursing Education
This course focuses on issues in design of curriculum content, organization, and planning toward a practical approach to curriculum development. Application of theory to the development and implementation of curriculum from the
point of view of the practice discipline of nursing will be emphasized. Problems, issues and procedures involved in designing and implementing evaluation studies will be discussed. Theory and methods of measurement and evaluation and their application to practice will be emphasized. Prerequisites: HNH 502 or HNG 502
3 credits, Letter graded (A, A-, B+, etc.)

HNH 512 Advanced Teaching Strategies
This course emphasizes the role of the teaching-learning process in clinical and academic nursing education through development of innovative instructional designs and processes. Issues such as feminism, creativity in clinical teaching, and the impact of economic and social trends on reality-based nursing will be discussed. A variety of teaching methods will be explored including simulation, virtual learning, social media and relevant and innovative instructional technologies.
3 credits, Letter graded (A, A-, B+, etc.)

HNH 513 Advanced Theory and Practice in Nursing Education I
This course focuses on graduate level clinical practice content and experiences related to the role of the nurse educator. A focus on this population-focused practicum will include student placement with an expert nurse clinician to develop proficiency in a focused area of clinical practice. Students will choose a population foci and complete 75 direct care hours during this precepted clinical experience. Increased knowledge in a specialized area of practice will provide a clinical foundation for academic and/or clinical nursing education.
3 credits, Letter graded (A, A-, B+, etc.)

HNH 514 Advanced Theory and Practice in Nursing Education II
This is the second of three sequential courses focused on providing guided learning experiences in nursing education. Students will select aspects of nursing education related to the development, delivery, and evaluation of curricula. Role transition and experiential learning related to academic or clinical nursing education will be a central focus of this course. Observation and experience related to academic or clinical nursing education will be emphasized. The student will be expected to complete 90 hours with a nurse educator. Prerequisite: HNH 513
4 credits, Letter graded (A, A-, B+, etc.)

HNH 515 Advanced Theory and Practice in Nursing Education III
This is the third of three sequential courses focused on providing guided learning experiences in nursing education. Students will select aspects of nursing education related to the role of nurse educator as leader. Scholarship activities begun in HNG 543 and HNH 514 will continue. Professional role responsibilities, including administrative functions, committee work and interdisciplinary efforts will be emphasized. The student will be expected to complete 90 hours with a nurse educator. Prerequisites: HNH 513, HNH 514
4 credits, Letter graded (A, A-, B+, etc.)

HNH 516 Evaluation and Testing in Nursing Education
This course provides an overview of classroom and clinical testing. Evaluation of learning and the application of technology will be explored. Various techniques, including test construction, item analysis and clinical performance appraisal will be a central focus of this course. The knowledge and skills gained will be applied in academic and clinical settings. Co-requisite: HNH-515
2 credits, Letter graded (A, A-, B+, etc.)

HNH 530 Communication and Relationship Management
This course focuses on issues in communication, relationship building, behaviors that influence others, diversity and shared decision making. Theories of interpersonal communication and professional relationship development will be emphasized. Problems, issues and procedures in relationship building will be discussed. Inter-professional collaboration will be stressed. A variety of leadership theories will be used to articulate the importance of effective oral and written communications in relation to leadership in relationship management.
3 credits, Letter graded (A, A-, B+, etc.)

HNH 531 Business Skills for Nurse Leaders
This course focuses on issues in resource management, strategic management and marketing in the health care environment. Focus will be on developing a strategic plan for the health care environment in which the student works. Marketing strategies will be explored. Discussions on labor relations in relation to professional issues in collective bargaining will be emphasized. Problems, issues and procedures involved in resource management will be discussed.
3 credits, Letter graded (A, A-, B+, etc.)

HNH 532 Finance and Economics in Nursing Leadership
This course provides an introduction to financial management for planning, operation, and evaluation of the economic performance of an organization. The course will focus on budgeting, healthcare reimbursement, cost/benefit analysis and the integration of leadership and management functions into fiscal planning. The student will investigate concepts and principles necessary for the management of fiscal resources.
3 credits, Letter graded (A, A-, B+, etc.)

HNH 533 Legal/Ethical/Regulatory Issues in Nursing Leadership
This course is designed to provide the knowledge and skills necessary to integrate legal, ethical and regulatory requirements into a variety of health care settings. Principles and processes of patient and employee safety will also be emphasized. Students will investigate concepts and principles necessary for ethical decision making.
3 credits, Letter graded (A, A-, B+, etc.)

HNH 534 Advanced Leadership Seminar
This course is the capstone course and will focus on the role of the nurse leader. Emphasis will be on role formation, dimensions of leadership roles, identification of individual and group leadership attributes, knowledge and skills required to fulfill the role and approaches to leadership. Students will develop and conduct self-assessments and create a professional development plan.

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

**HNH 540 Advanced Theory and Practice in Nursing Leadership I**

This is the first of two sequential courses designed to provide learning experiences with a nurse leader. Students will integrate advanced knowledge and skills related to organizational theory and financial/human resource management. The student will use data-driven decision making and creative leadership skills to build a positive practice environment as well as develop analytical skills to assess and forecast trends in nursing leadership. Inter-professional collaboration will be emphasized. Field experiences of 90 hours are required and may include preceptorship by a nurse leader and financial officer in a health care system.

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

**HNH 541 Advanced Theory and Practice in Nursing Leadership II**

This is the second of two sequential courses designed to provide learning experiences with a nurse leader. This course builds on knowledge of organizational leadership and quality improvement. The student will integrate advanced knowledge and skills into practical applications in the role of nurse leader. Students will further explore the leadership role through current relevant research to enhance their ability to strategize entrepreneurial relationships, develop creative solutions to financial constraints and evaluate infrastructure and technology. Project management will be emphasized. Students will be required to seek experiences with health care leaders involved in project management. Field experiences of 120 hours are required.

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

**HNH 580 Health Coping Skills Training for Health Care**

Treatment approaches for many chronic illnesses consist of pharmacological and non-pharmacological interventions. Often patients need to take an active role in their care in order to best manage symptoms associated with chronic illness. Coping Skills Training (CST) is a psychotherapeutic approach that aims to solve problems concerning dysfunctional emotions, behaviors and cognitions through a goal-oriented, systematic procedure. The theoretical foundations that underpin CST will be explored through guided readings. A combination of cognitive and behavioral therapeutic interventions will be introduced and practiced with the goal of applying the skills to practice in order to help people change negative thought patterns, beliefs, and behaviors so they can manage symptoms and enjoy more productive, less stressful lives. Students will learn to deliver CST using a standardized manual of coping skills. Rationale for each skill, demonstration, role playing and skills feedback will be the teaching/learning strategies for this course. Instructor feedback and supervision of home practice audio recordings of simulated skill sessions will enhance student proficiency in skill acquisition.

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

**HNH 590 Nursing and Numbers: Budgeting and Benchmarking for Nurses**

This course is designed to provide nurse leaders with an overview of the budget development process. Various types of budgets will be discussed with a focus on variance assessments, analysis, and benchmarking.

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

**HNI**

**HNI 290 Introduction to Nursing**

This course is designed as an introduction to nursing for students who plan

2 credits

**HNI 301 Mathematics for Health Care**

This required course builds upon previous knowledge of mathematical concepts. Students are guided to refine and apply these concepts to the preparation of drugs and solutions. Emphasis is placed on the need for accuracy in computations. A self-directed programmed approach will be utilized.

1 credit

**HNI 304 Social Justice in Health Care**

This course will explore the role of social determinants in health outcomes. Current theories on health disparities will be examined. Strategies to decrease these disparities will be discussed and methods to promote social justice within the current health care environment will be presented.

2 credits

**HNI 305 Healing and the Arts**

This course examines the interface between the arts and nursing to provide insight into the human condition and the healing process. Theoretical and evidence-based foundations that inform the field of the arts in healthcare will be discussed. Students will have the opportunity to view, interpret, reflect on and create works of art, including paintings, sculpture, literature, film, music and movement. These topics will be explored to develop and enhance the skills of observation, analysis, empathy, self-reflection, and interpersonal (nurse-patient) and interprofessional (nurse-colleague) relationships, which are essential in supporting the healing process and providing holistic patient-centered care to diverse populations.

2 credits

**HNI 307 Disability from the Inside Out**

This course is designed to provide students an opportunity to develop an awareness of issues of disabled adults, including self care, self advocacy, disability rights, and independent living philosophies. Experience-based learning activities
facilitate acquisition of student skills in critical thinking, interprofessional collaboration and communication relevant to developing therapeutic interventions. This interprofessional course will include a service learning experiential immersion, utilizing the EmpowerSCI spinal cord injury program, a unique residential rehabilitation program for individuals with spinal cord injuries, in collaboration with the School of Health Technology and Management. 2 credits

**HNI 310 Pathophysiology**
This is a foundation course introducing the student to the basic mechanisms of disease and pathophysiology. 3 credits

**HNI 314 Transitional Leadership: Military Veteran to Nurse**
This course is designed to support a seamless transition for the student veteran, from military to civilian/ university life as a nursing undergraduate student. This course will emphasize the maturity of the student veteran; exploring the strengths of the student veteran: leadership skills, discipline and teamwork experiences, familiarity with diversity, and mission focused orientation. Individual learning needs will be evaluated with focus on learning styles, attention/ concentration, information processing, and executive function. Orientation to School of Nursing and campus resources and academic accommodations will be reviewed. Skills for student success will be addressed including concentration/ memory tips, advanced communication techniques, test taking strategies, and coping mechanisms. Basic nursing theory and patient and population health care will be discussed. The student veteran will be introduced to the nursing profession and will examine and explore similarities and differences between the systems. 2 credits

**HNI 333 Fundamentals of Pharmacology**
This course explores the basic scientific principles that underlie the mechanisms of action of the major drug classifications and their effect on pathophysiologic processes. A prototype approach is used to assist students in organizing and learning the major drug classifications. A major emphasis is placed on development of clinical decision-making and critical thinking skills. 4 credits

**HNI 350 Professional Role Development in Nursing**
This is a foundation course that explores the role and responsibilities of the nurse in meeting the demands of current and evolving health care systems. The history and theoretical basis of the profession are introduced. Standards of practice, ethical issues, and personal values are examined. Political, social, and economic issues, as they relate to nursing and health care, are also considered. Cultural awareness and sensitivity are emphasized. Consideration of the school’s mission and philosophy is followed by student development of a personal philosophy of nursing practice. 2 credits

**HNI 367 Introduction to Healthcare Policy**
This course provides a basic understanding of the healthcare policy in the United 2 credits

**HNI 370 Health Assessment**
This course focuses on the health assessment of individuals within a multicultural society. Biopsychosocial and spiritual dimensions of health are assessed. Using scientific methods as a framework, concepts of communications, critical analysis and clinical decision-making are emphasized in assessing psychological and physiological health status throughout the lifecycle. The basic skills of interviewing, history taking, data collection and physical examination are employed to derive nursing diagnoses, determine priorities and therapeutic nursing interventions. 3 credits

**HNI 373 Psychosocial Mental Health Nursing**
This required nursing course focuses on psychosocial nursing as a continuum of care across the lifespan and across the continuum of health care environments. Theoretical knowledge and clinical practice are developed from the philosophy of nursing care that respects clients as individuals within the context of family and a culturally diverse society. Case studies and experiential based learning activities are provided to enhance critical thinking and encourage independent decision-making. Clinical experiences are designed to give the student an opportunity to utilize previously acquired nursing knowledge, to develop an understanding of health promotion and disease prevention; advanced communication skills in caring for diverse population, and with interprofessional team members. 6 credits

**HNI 376 Nursing Student Internship**
This course is designed to provide the nursing student with the opportunity to further develop clinical expertise utilizing Stony Brook University Medical Center (SBUMC) as a clinical campus. Critical thinking/clinical decision-making skills, cultural sensitivity, communication, time management, ethical issues, and therapeutic interventions will be emphasized. 3 credits

**HNI 377 Principles and Applications of Nursing Interventions I**
This required nursing clinical course is an introduction to the role of the baccalaureate nurse as a manager of health care. Intra- and interprofessional communication and clinical/critical decision making are explored as key aspects of nursing process. Concepts and principles of practice are drawn from nursing theories, combined with evidence based research findings and current knowledge in the psychological, social, behavioral and physical sciences and the humanities, to build a conceptual base for professional practice. Professional nursing practice goals of health promotion, prevention of disease states and restoration of health within the current state of increased prevalence of chronic illnesses/comorbidities are presented. The focus is on the introduction of knowledge and skills used for patient
interactions to provide high quality health care to a diverse
patient population throughout the lifespan.
6 credits

**HNI 378** Principles and Applications of Nursing Interventions II

This required nursing clinical course facilitates continued
development of the baccalaureate nurse as manager of health care. Intra- and interprofessional communication and clinical/critical decision making are explored as key aspects of nursing process. Concepts and principles of practice are drawn from nursing theories, combined with evidence based research findings and current knowledge in the psychological, social, behavioral and physical sciences and the humanities, to build a conceptual base for professional practice. Professional nursing practice goals of health promotion, prevention of disease states and restoration of health within the current state of increased prevalence of chronic illnesses/comorbidities are presented. A focus is on continued development of knowledge, skills and attitudes necessary for patient interactions to provide high quality health care to a diverse patient population throughout the lifespan.
6 credits

**HNI 382** Continuing Course Work

Continuing Course Work
1-5 credits, S/U grading

**HNI 389** Cultural Immersion: Undergraduate

This seminar course will provide the student with an interprofessional perspective of global health. A specific world area will be studied in detail with emphasis on contemporary problems that affect health considering the ecology, history, language, cultural systems and social arrangements. Cross-cultural learning opportunities, both domestic and abroad, will engage students in reflection on the interconnections, interdependence and inequalities they encounter during this experience. School of Nursing permission is required.
3 credits, Letter graded (A, A-, B+, etc.)

**HNI 440** Research in Nursing

This course is an introduction to the language and process of scientific inquiry in nursing research. It emphasizes the development and use of an evidence-based practice in nursing. Theoretical frameworks, research terminology and designs are introduced. Critical appraisal skills are developed through the evaluation and critique of current research. The importance of incorporating research findings into professional practice is promoted.
2 credits

**HNI 452** Preparation for Professional Licensure

This elective course explores the application of nursing knowledge and skills of critical thinking, management, and delegation to demonstrate competency as an entry-level nurse. Prioritization and clinical judgment concepts are emphasized.
1-5 credits

**HNI 455** Adult and Gerontological Health Nursing I

This required nursing clinical course is an introduction to assessment and management of human complex health problems of adult and geriatric individuals within a multicultural society. Application of theoretical and conceptual frameworks, intra-and interprofessional communication, clinical/critical decision making, and evidence-based therapeutic interventions to provide safe, high quality care.
6 credits

**HNI 456** Adult and Gerontological Health Nursing II

This required nursing clinical course allows development of assessment and management skills for human complex health problems of adult and geriatric individuals within a multicultural society. Utilization of theoretical and conceptual frameworks, intra-and interprofessional communication, clinical/critical decision making, and evidence-based therapeutic interventions to provide safe, high quality care.
6 credits

**HNI 463** Maternal and Newborn Health

This is a required clinical course which focuses on parent child health nursing as a continuum of care during pregnancy, delivery, postpartum, and the neonatal periods. The student is introduced to theoretical and clinical practice based on a philosophy of nursing care that respects patients as individuals within the context of family and a culturally diverse society. Experience-based learning activities facilitate in critical thinking, clinical decision making, interprofessional communication, and collaboration relevant to developing therapeutic nursing interventions.
5 credits

**HNI 464** Child and Adolescent Health

This is a required clinical course which focuses on parent child health nursing as a continuum of care during the child-bearing years from newborn through adolescence. The student is introduced to theoretical and clinical practice based on a philosophy of nursing care that respects patients as individuals within the context of family and a culturally diverse society. Experience-based learning activities facilitate acquisition of student skills in critical thinking, clinical decision making, and interprofessional communication and collaboration relevant to developing therapeutic nursing interventions.
5 credits

**HNI 469** Population Health Nursing

This required clinical course is designed to prepare the student to work with families, groups, communities and populations across both the lifespan and the continuum of health care environments. Case studies and community based learning activities are provided to enhance critical reasoning and encourage independent decision making. Clinical experiences are designed to give the student an opportunity to utilize evidence based nursing interventions to provide health promotion and disease prevention. Advanced communication skills are utilized in caring for diverse
population in collaboration with interprofessional team members.
6 credits

HNI 474 Capstone Nursing Practicum
This is a required senior level course which emphasizes integration and application of theory and research findings in an intensive clinical practicum. The student has the opportunity to actualize the professional nurse generalist role, utilizing professional registered nurse preceptors and faculty mentors.
5 credits

HNI 479 Transitions into Professional Practice
This course presents the concepts and skills needed to transition to professional nursing practice. Organizational structure, time management and conflict resolution strategies are presented. Team-building and interdisciplinary communication principles are emphasized. The nurses role as a health care advocate and resource manager are investigated. Delegation and prioritization principles are reinforced, and legal/ethical issues related to nursing practice are explored. Career planning and professional growth are encouraged through the development of a professional resume.
3 credits

HNI 480 Clinical Immersion in Operative Nursing
This elective clinical observation course explores the role of the registered nurse and the interprofessional health care team in the operating room environment
1 credit, S/U grading

HNI 481 Clinical Immersion: Undergraduate
The focus of this course is to expand, deepen, or enrich clinical practice skills relevant to area of clinical practice. Learning opportunities, in clinical and simulated settings, will promote integration of clinical competencies, leadership, and practice inquiry. Emphasis will be placed on self-directed and perceptive learning experiences, in-depth clinical skill building and decision-making, continuity of care, and inter-professional collaboration.
1-6 credits, S/U grading

HNI 482 Directed Studies
A directed study is a student-initiated elective course in which an area of interest in nursing is explored with the guidance of a faculty mentor. The Directed Study courses do not replace required or core courses for the major.
1-4 credits

HNI 489 Global Immersion: Undergraduate
The focus of this course is to expand, deepen, or enrich nursing practice relevant to global aggregates, families and communities. Learning opportunities will promote integration of competencies, leadership, and practice inquiry within the context of a global experience. Cross-cultural learning experiences will provide opportunities for student reflection on the interconnections, interdependence and inequalities they encounter during these experiences. Emphasis will be placed on interprofessional collaboration within an international environment. School of Nursing permission is required.
0-6 credits

HNI 491 Patient and Family Centered Care: Partners on Health Care
This course is designed to provide a theoretical and conceptual framework for
2 credits

HNI 492 Complementary and Alternative Therapies
This course is an introduction to complementary and alternative health practices. A core value of Nursing practice is holistic care of the patient. The student will examine uses of complementary and alternative therapies in health promotion and disease prevention as well as in acute and chronic health management through evidence based practice and research. Implications of complementary and alternative therapies on culture, health disparities, society, economics, safety, legal, ethical and health policy issues will be explored and discussed.
2 credits

HNI 493 End of Life Care of the Adult Patient
This course focuses on nursing care of the adult who is dying from disease and their family. It will emphasize a framework that allows the client to die peacefully, with dignity and in the context of their own lives while honoring the clients end-of-life choices. The content will address several themes including advocacy, ethical, legal, cultural and financial considerations, and inter-professional collaboration.
2 credits

HPD

HPD 519 Systematic Review of the Literature
This introductory course will provide students with an understanding of the process used to perform systematic review, as well as provide a “hands on” experience. Each student will perform a systematic review of the literature for their own pre-defined research question of interest. As part of the systematic literature review process, students will learn how to focus their research question; to search the literature to identify relevant studies; to appraise the quality and select studies; and to summarize studies as well as to synthesize their results in context of their original research question raised. To receive a grade for this course, moreover, a scholarly product (e.g., manuscript or letter to the editor) must be submitted to a peer-reviewed journal.
Fall, 3 credits, Letter graded (A, A-, B+, etc.)

HPD 521 Introduction to Clinical Research
This seminar series course provides a broad-based introduction to the fields of population health and clinical science research. This course will prepare participants to
become critical consumers of the peer-reviewed literature. Class lectures will cover a wide range of topics, which include: framing a research question, formulating a research hypothesis, evaluating the peer-reviewed literature, exploring study design options, conducting human subjects' research ethically/responsibly, selecting clinical outcomes, and evaluating analytical alternatives. Offered in Summer, 1 credit, Letter graded (A, A-, B+, etc.)

**HPD 592 Applied Data Management Using SAS**

This course provides students with an introduction to the principles of public health and clinical research-related informatics and data management using the SAS systems. Lectures and labs will be aimed at developing hands-on skills about how to create, maintain, and manage databases using the SAS Systems for Windows, a major software package used frequently in public health and clinical outcomes research. 1 credit, Letter graded (A, A-, B+, etc.)

**HPD 601 Human Subjects: Ethics and Responsible Conduct of Research**

This introductory course incorporates three components focused upon identifying: 1) the ethical principles associated with human subjects research; 2) the primary tenets of responsible conduct of research; 3) academic career planning. This course provides a philosophical basis for current research ethics practices, identifies outstanding ethical issues and controversies in clinical and translational science and research, and provides students with knowledge and access to resources such that they may to address the ethical challenges that may arise most effectively. The course provides a more in-depth exploration of the ethics and responsible conduct of clinical and translational science research that can supplement current mandated training in the area. Offered fall, one credit, ABCF grading 1 credit, Letter graded (A, A-, B+, etc.)

**HPD 605 Introductory Seminar on Doctoral Studies in Population Health and Clinical Outcomes**

This is an introductory doctoral level 3-credit seminar for all incoming PhD students in Population Health and Clinical Outcomes. This course will help students understand what earning a PhD entails, opportunities that exist after earning a PhD, typical PhD-level work activities, and beginning the process of academic writing. Students should already be thinking about what their dissertation will be about, and we will build off of that throughout the course. 3 credits, Letter graded (A, A-, B+, etc.)

**HPD 619 Independent Study**

Intensive reading under supervision of one or more instructors, of material not covered in the formal curriculum, or execution of a research project under the supervision of one or more faculty members. Generally a written deliverable (e.g. manuscript) will be required. Instructor consent required. 0-6 credits, Letter graded (A, A-, B+, etc.)

**HPD 650 Seminar Series: Clinical Applications of Molecular Medicine**

This course will provide an overview of the field of molecular medicine, with a focus on cutting edge technologies related to the current and future clinical applications to improve early detection, to enhance diagnostic testing, to monitor treatments, and to counsel patients on their prognosis. As applied to clinical patient care questions, the specific molecular medicine topics discussed will include: DNA, RNA, proteomics, and chromosome assays. Pending the specific lecturer and topics coordinated, students will be introduced to a broad range of biomarkers for disease such as cancer, pulmonary/heart diseases, autism, and immune-related disease challenges. An emphasis will be placed in this course on learning how molecular markers can be applied in a clinical setting to augment the patient and provider decision-making process. (NOTE: Students should have an introductory knowledge of cellular and molecular development biology, as well as a general laboratory background). 3 credits, Offered in Spring, Letter graded (A, A-, B+, etc.)

**HPD 664 Clinical Trials**

This course introduces the design, conduct, and analysis of clinical trials. Topics include types of clinical trials, study design, treatment allocation, randomization and stratification, quality control, sample size requirements, patient consent, and interpretation of results. 3 credits, Letter graded (A, A-, B+, etc.)

**HPD 665 Clinical Outcomes Research**

This course will provide an overview of the field of clinical outcomes assessment. The specific topics covered include: risk factors identification, clinical outcomes selection, risk adjustment methods, patient safety monitoring, and provider-based quality improvement performance reporting. Students will be introduced to a broad range of clinical outcomes including (but not limited to) short-term mortality, treatment-related morbidity, health-related quality of life, condition-specific metrics, patient satisfaction, health plan member satisfaction, utility theory, and cost-effectiveness analysis. An emphasis will be placed in this course is placed on learning how clinical outcomes research can provide a data-driven approach to influence patient, provider, program, and policy decisions. 3 credits, Letter graded (A, A-, B+, etc.)

**HPD 674 Causal Inference**

This course introduces the design, conduct, and analysis of clinical trials. Topics include types of clinical trials, study design, treatment allocation, randomization and stratification, quality control, sample size requirements, patient consent, and interpretation of results. 3 credits, Letter graded (A, A-, B+, etc.)

**HPD 681 Advanced Social Determinants of Health**

This course will build on the prior HPH 523 and further examine the current evidence supporting an association between social determinants (e.g., socioeconomic status,
physical living conditions, individual characteristics, social support, etc) and health. Students will review and critically examine the current literature on the social determinants of population health with the goal of identifying gaps in this literature which may be filled by future research. Concepts relating to the social determinants of health - e.g., identification of current priority areas, theoretical frameworks and perspectives, intervention, research methodology, etc, will be addressed as each comes up in the context of the reviewed journal article. Using publicly available data sets, students will choose a research topic related to an identified gap in the current research on the social determinants of health, propose a project to examine this topic or need which can be accomplished using publicly available data sets, conduct the analysis and write up their project in a format suitable for submission for publication. Offered Spring, 3 credits, Letter graded (A, A-, B+, etc.)

HPD 682 Statistical Methods in Clinical Outcomes Research

The purpose of the course is to familiarize students with some major topics in clinical outcomes research, the statistical models commonly employed, and statistical problems that need to be overcome. Specific topics of interest may include: risk factor analysis; static models; risk factor/disease progression analysis; dynamic models; survival analysis; (including multivariable survival analysis); volume-outcomes research; and forecasting models. Statistical techniques and challenges will be discussed within the context of each research topic as they arise. By the end of this course, students should be broadly familiar with these issues, and should be able to evaluate published clinical outcomes research in terms of the appropriateness of models chosen and how well the statistical problems have been addressed, and the reliability of the results. Prerequisites: HPH 507 Biostatistics II or equivalent course. Offered Fall, 3 credits, Letter graded (A, A-, B+, etc.)

HPD 686 Mentored Research Project in Population Health and Clinical Outcomes Research

Supervised research experience. 0-9 credits

HPD 687 Advanced Research Seminar

The main purpose of this course is to familiarize students with empirical research methods via presentation and critiques of published research and work in progress. By presenting and discussing actual research that employs various statistical and other research methods, students will deepen their understanding of research intent and design, methodology and technique, format and presentation, and data management and analysis. This will reinforce their understanding of these methods learned in previous coursework. 3 credits, Letter graded (A, A-, B+, etc.)

HPD 692 Practicum in Teaching I

In this course, students will have the opportunity to examine, and plan for, the teaching component of the professor role. We will use a combination of strategies including lectures, discussions, small group activities, and interviews of exceptional teachers and departmental chairs to explore philosophical and practical issues related to course preparation, delivery, and evaluation. At the completion of the course, students will have a teaching portfolio that will have two basic components: a detailed set of plans for a specific course and a statement of their teaching philosophy. This will be an intensive hands on course that will require supportive and cooperative behaviors by all. 3 credits, Letter graded (A, A-, B+, etc.)

HPD 693 Practicum in Teaching II

The course is a supervised teaching experience with the Master of Public Health program. Offered Fall, Spring, and Summer, 3 credits, S/U grading

HPD 694 Grant Writing

This course will assist students in synthesizing basic public health knowledge through completion of a grant writing experience. Students will be introduced to the process of writing grant proposals, developing budgets, professional networking, publishing in the scientific literature, and planning for their future careers as public health professionals and academics. Students will also present their own individual research projects, write their own grant proposal, and do a career mapping exercise. 3 credits, Letter graded (A, A-, B+, etc.)

HPD 699 Dissertation Research On Campus

This course is normally taken by advanced PhD students when they conduct research towards their theses. Only PhD students who have been advanced to candidacy (G5 status) can take this course. Students who have the G3 and G4 status and participate in a research project with their advisor can register for HPD 619 Independent Study. Summer, 0-9 credits, S/U grading

HPH 500 Contemporary Issues in Public Health

This course provides an introduction to the field of public health that aims to develop an appreciation of the unique and important mission of public health; an understanding of the history, values, ethics, mission, and goals of public health; and knowledge about how public health functions today including the organization, financing, policies, and practices of public health. Students will be expected to think critically about whether public health has achieved its mission in today's world and how the profession might develop in the future. Prerequisite: Admission to Graduate Public Health Program or Department Consent. 3 credits, Letter graded (A, A-, B+, etc.)

HPH 501 Introduction to the Research Process

This course provides an overview of the research process including formulation of a research problem, conceptualization of the research design, construction of the instrument for
data collection, selection of a sample, collection of data, and writing a research report. Topics include how to identify a research question and, correspondingly, how to formulate a clear, concise hypothesis or set of hypotheses; reasons and procedures for reviewing the literature; overview of observational and interventional research designs; review of measurement theory, types of scales, and commonly used measures in public health-related research; data collection methods including survey and qualitative methods; and the ethical conduct of research. Through the introduction of these topics, the course provides a general background for individuals who are interested in learning the fundamentals of how to prepare a research proposal. Prerequisite: Admission to Graduate Public Health Program or Department Consent. 3 credits, Letter graded (A, A-, B+, etc.)

HPH 506 Biostatistics I
This is part 1 of a 2-term course and is intended to provide students and researchers in public health with an introduction to the principles of statistical methods and their application in biomedical and public health research. Students are expected to enroll in parts 1 and 2 sequentially within the same academic year. This course includes introductions to the use of computers for statistical analysis, summarizing and exploring data, probability theory, discrete and continuous probability distributions, populations and samples, sampling distributions and statistical inference, hypothesis testing, sample size and power, two-sample comparisons, analysis of variance, association and correlation, simple linear regression and simple logistic regression. Prerequisites: Admission to Graduate Public health Program or Department Consent; HPH 501 and HPH 507. 3 credits, Letter graded (A, A-, B+, etc.)

HPH 507 Biostatistics II
This is part 2 of a 2-term course and is intended to provide students and researchers in public health with an introduction to the principles of statistical methods and their application in biomedical and public health research. Students are expected to enroll in parts 1 and 2 sequentially within the same academic year. This course includes introductions to the use of computers for statistical analysis, summarizing and exploring data, probability theory, discrete and continuous probability distributions, populations and samples, sampling distributions and statistical inference, hypothesis testing, sample size and power, two-sample comparisons, analysis of variance, association and correlation, simple linear regression and simple logistic regression. Prerequisites: Admission to Graduate Public Health Program or Department Consent; HPH 506. 3 credits, Letter graded (A, A-, B+, etc.)

HPH 508 Health Systems Performance
This course introduces students to the system that we have developed to deliver health care in the United States, with international comparisons. The topics include the organization and financing of health care systems, access to health care including health insurance, regulation and policy issues, and the health care workforce. Prerequisite: Admission to Graduate Public Health Program or Department Consent 3 credits, Letter graded (A, A-, B+, etc.)

HPH 514 Epidemiology for Public Health
This course presents basic epidemiologic concepts used to study health and disease in populations. It provides an overview of the major causes of morbidity and mortality, including methods of measurement (e.g., incidence, prevalence). Observational and experimental epidemiologic studies will be described and their advantages and disadvantages compared. The course aims for students to begin developing the skills needed to evaluate data, interpret reports, design, and conduct studies. Students will be introduced to the various areas of epidemiologic studies, including cancer, molecular/genetic, environmental, occupational, social and behavioral, and infectious disease surveillance. The course comprises both lectures and small group seminars for in-depth discussions of previously assigned topics. Prerequisites: Admission to Graduate Public Health Program or Department Consent; HPH 501 and HPH 506. 3 credits, Letter graded (A, A-, B+, etc.)

HPH 516 Environmental and Occupational Health
This course is designed to provide the fundamentals of environmental and occupational health and to educate students on issues related to major environmental and occupational concerns. It will provide a forum for the discussion of local and national environmental and occupational public health issues. The content of the course will focus on major pollutants, their detection, impact on health, and principles of remediation. Using various teaching techniques, students will be exposed to current environmental and occupational topics and approaches to prevention and treatment. The course will emphasize the most recent research in the field. Prerequisite: Admission to Graduate Public Health Program or Department Consent 3 credits, Letter graded (A, A-, B+, etc.)

HPH 519 Independent Study
Intensive reading, under supervision of one or more instructors, of material not covered in the formal curriculum, or execution of a research project under the supervision of one or more faculty members. Permission of MPH Academic Coordinator is required. Prerequisite: Admission to Graduate Public Health Program or Department Consent 0-6 credits, Letter graded (A, A-, B+, etc.)

HPH 521 Introduction to Clinical Research
This introductory seminar series provides a broad-based overview of clinical science research methods, as well as guidance for critically reviewing the peer-reviewed literature. Class lectures, exercises, and interactive small group sessions will cover framing a research question, formulating a research hypothesis, critically appraising the literature, exploring study design options, conducting research ethically and responsibly, selecting clinical outcomes, and evaluating analytical alternatives. Students enrolled in the Master of Public Health degree program can not use this course (earn credit) to their degree requirements. 1 credit, Letter graded (A, A-, B+, etc.)
This course introduces students to population health as one of the organizing concepts in public health and the orientation that differentiates public health from medicine. Consistent with public health tradition, health is discussed from an ecological perspective, and the course presents current knowledge about the multiple determinants of population health including socioeconomic status, the physical environment, medical care, individual behavior, and genetics and the interaction of these factors. Also covered is the measurement of population health, sources of data and methods for assessing population health improvements. Prerequisite: Admission to Graduate Public Health Program or Department Consent
3 credits, Letter graded (A, A-, B+, etc.)

HPH 525 Evaluating Public Health Initiatives

This course introduces students to health policy analysis and public health program evaluation, two distinct fields that share similar tools, albeit with different goals in mind and approaches to meet these goals. Specifically, this course (1) draws on economics, epidemiology, political science, and biostatistics to prepare students to conduct holistic analyses of health policy issues; (2) prepares students to plan a program evaluation; and (3) prepares students to evaluate public policy options. Prerequisite: Admission to Graduate Public Health Program or Department Consent
3 credits, Letter graded (A, A-, B+, etc.)

HPH 527 Health Economics and Policy

This course will provide students with a comprehensive view of the reasons behind the rapid rise in medical expenditures in the United States over nearly four decades, and the measures that have been proposed to address this problem. This course will cover the following topics: the demand and supply of medical care; the dynamics of competition in the health care industry; the role of government in medical care; general understanding of health care institutions, including Medicare, Medicaid, managed care, hospital and physician behavior, and pharmaceutical markets; and health care reform. Prerequisite: Admission to Graduate Public Health Program or Department Consent
3 credits, Letter graded (A, A-, B+, etc.)

HPH 529 Fundamentals of Healthcare Management

This course is designed to provide the student a broad overview of the various issues, required skills and challenges of management in the healthcare setting. It is designed for the Health Policy and Management concentration but is open to all MPH students. Each session will consist of both a presentation by the instructor and by a student. The student presentations will be in the nature of problem solving exercises largely using illustrative cases in the assigned text. The number of presentations each student will be asked to do will vary with the class size so that there is a student presentation each week. The readings in the assigned text are required and will be used, in part, to construct the examinations. Prerequisite: Admission to Graduate Public Health Program or Department Consent; HPH 508
3 credits, Letter graded (A, A-, B+, etc.)

HPH 534 Spatial Analysis: Health Applications

This course is an intermediate level graduate course in the application of spatial methods for analyzing environmental exposure and disease data. Students with backgrounds in epidemiology, public health, environmental health, biostatistics, community health, biology, sociology, psychology, marine and atmospheric sciences, geosciences, demography, and geography are particularly encouraged to participate. Although the course will focus on examples related to human health, graduate students in other disciplines will find the course useful for specific and appropriately defined research purposes. Techniques for spatially analyzing point patterns and aggregated data in polygons will be introduced, including autocorrelation, clustering analysis, geostatistical smoothing, and approaches for spatial regression. Consideration of space-time variability will also be covered. This course includes theoretical elements so that the student will learn to appreciate strengths and weaknesses of different spatial approaches. Prior course in GIS or equivalent, as determined by consent from the instructor required.

Students need a foundational knowledge of Geographic Information Systems (GIS) software. This requirement can be met by completing GSS 313: GIS Design and Application I (if available), by completing other Introduction to GIS courses at Stony Brook or elsewhere, or by self-teaching using the following book: Getting to Know ArcGIS Desktop by Tim Ormsby, Eileen Napoleon, and Robert Burke. Prerequisite: Admission to Graduate Public Health Program or Department Consent
3 credits, Letter graded (A, A-, B+, etc.)

HPH 542 Introduction to Global Health

This course will provide an introduction to the field of global health and challenge students to think about how a global perspective could enhance their future practice. The course is designed for MD and MPH students, and is open to students from related graduate programs with instructor permission. This course will explore core concepts in global health, including its definition and origin; how to measure the global burden of disease; recent progress and current challenges; social inequalities in health; health systems; and global stakeholders. It will also apply such concepts to major global health topics, with lectures focused on such areas as HIV/AIDS, child health and immunization, chronic disease epidemiology and sexual violence.
2 credits, S/F graded

HPH 549 Public Health Law

This course is a survey of legal and policy issues that have special relevance for public health professionals. Topics may vary, but typically will include many of the following: structure of the U.S. legal system; power of state governments in matters affecting health care; governmental power and the right to privacy; constitutional issues in social welfare benefits; governmental regulation of health care providers and payers; the scope and discretion of administrative agencies in health care; the antitrust laws; the fraud and abuse laws; and negligence in the delivery and financing of health care. Prerequisite: Admission to Graduate Public Health Program.
3 credits, Letter graded (A, A-, B+, etc.)
In this survey theory course, students learn about the major health behavior and health communication theories that are used in population health research and practice. Rather than simply cataloguing each theory in turn, this course takes a constant, comparative approach to the learning of theories, in which theories are dissected to their core elements and compared to each other in order to understand the points of convergence and divergence among them. The goal in taking this comparative approach is application: by knowing the core elements of various theories, students will more easily be able to choose appropriate theories to explain population health problems of interest and consider the design of interventions that are appropriate to achieve improvements in the educational, behavioral and environmental factors that may contribute to the problem. In addition to covering traditional individual-level behavior change and health communication theories, this course will focus on social change and systems theories, challenging students to think about the role of social context and systems on health behavior and health communication to achieve population health improvements. Finally, after learning about commonly-used theories in the field of public health, students will learn about an critique theories that are less-commonly used (such as new and emerging theories in the literature) and have important implications for future research, practice, and further theory development and testing among populations. Prerequisite: Admission to Graduate Public Health Program or Department Consent

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

### HPH 551 Practice of Health Communications

This course provides an overview of health communication. The course will introduce theories concerning health communication, and build on such to provide practical approaches to interpersonal and organizational health communication, risk communication, and media campaigns. Students will learn to collect, organize, and convey information effectively to different audiences important to public health initiatives. Throughout, the course will emphasize how health literacy and cultural beliefs influence effective communication, and students will be challenged to develop communication tools (e.g., social marketing campaigns, presentations, op-eds) optimized for a specific population. Prerequisite: Admission to Graduate Public Health Program or Department Consent

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

### HPH 552 Planning and Implementing Community Health Initiatives

In this course, students learn how to develop theoretically-informed and evidence-based community health initiatives. Over the course of the semester, students work on developing their own culturally-competent community health initiatives, each of which is targeted at a particular population with a specific health need. Each student learns how to assess community needs and assets using a variety of methods, elaborate an initiative's theory of change through use of logic model, design theoretically-informed intervention activities appropriate to the needs/assets identified, create a budget and organizational structure, and engage key stakeholders at every facet of development and implementation of the community health initiative. Students work together in the same small group over the course of the semester to get/ give feedback and hone their individual projects. Through this intense group work, students both (1) learn how to apply course concepts to several particular community health problems and (2) gain skills for working in teams on community health initiative planning and implementation. Prerequisite: Admission to Graduate Public Health Program or Department Consent; HPH 550.

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

### HPH 553 Advanced Evaluation of Community Health Initiatives

This course prepares students to plan, implement, and utilize an evaluation of a community health initiative. Basic principles and practices of evaluation are addressed, including identifying the goals of a community health initiative; designing an evaluation plan that can determine if the initiative's goals are achieved; implementing an evaluation plan; interacting with stakeholders; and using evaluation results to improve performance. Prerequisite: Admission to Graduate Public Health Program or Department Consent

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

### HPH 554 Principles of Health Education & Promotion

This course aims to provide students with the historical, theoretical, and philosophical foundations of health education and promotion. Students will be the tools to work with community and patient populations. Students will be equipped with knowledge, skills, and attitudes to raise people's health awareness, as well as the tools needed to teach people how to reduce their risk of disease and promote health. All students will be required to design a health education and promotion program using the knowledge and skills learned in the course. Prerequisite: Admission to Graduate Public Health Program or Department Consent

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

### HPH 555 Demography and Global Health

This course introduces students to the basic theory and methods employed in the study of demography. The students will understand life table methodology, population projection, sources of demographic data, patterns in global fertility and mortality, the demographic transition, current patterns in fertility, marriage and work, abortion and contraception, and fertility/mortality interrelationships. Prerequisite: Admission to Graduate Public Health Program or Department Consent

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

### HPH 559 Advanced Research Methods

This course will provide students with an in-depth review of principles of public health research methods. Emphasis will be placed on conceptualization of research questions, evaluation of research design, sample size, and issues related to potential threats to validity within a public/applied setting. Additionally, students will become familiar with how to evaluate methods used in published literature and to
Design their own research projects. Course topics will include how to obtain secondary data, sample size calculation, risk adjustment, bias, confounding, and interaction. The instructor will work with students as they develop their own analytic project proposals. Students will be expected to implement their proposed research in HPH 560 Advanced Biostatistics in the following semester. Prerequisite: Admission to Graduate Public Health Program or Department Consent 3 credits, Letter graded (A, A-, B+, etc.)

HPH 560 Applied Biostatistics

Students learn to formulate a scientific question in terms of a statistical model, leading to objective and quantitative answers. Topics may include analysis of variance, regression, including details of data-analytic techniques and implications for study design, measures of association, 2x2 tables, stratification, matched pairs, logistic regression, model building, analysis of rates, and survival data analysis using proportional hazards models. The course stresses applications in epidemiology, and other areas of public health research. Prerequisite: Admission to Graduate Public Health Program or Department Consent; HPH 507 and HPH 559. 3 credits, Letter graded (A, A-, B+, etc.)

HPH 562 Data Management and Informatics

This course provides students with an introduction to the principles of public health informatics and data management using the SAS systems. Lectures and labs will be aimed at developing hands-on skills about how to create, maintain, and manage databases using the SAS Systems for Windows, a major software package used frequently in public health and clinical research. In addition, the student will learn how to retrieve and summarize information about population health from major public health information systems in the U.S. Prerequisite: Admission to Graduate Public Health Program or Department Consent; HPH 501 and HPH 506 3 credits, Letter graded (A, A-, B+, etc.)

HPH 564 Qualitative Methods

In this course, students learn about the logic, theory, and methods of qualitative research within population health and related fields (e.g., social welfare, nursing, medicine, sociology, and psychology). The course begins with an introduction to the epistemological and ontological underpinnings of qualitative inquiry, with special attention to how these factors affect the types of research questions often asked (and answered) by qualitative researchers. Students then learn the nuts-and-bolts of qualitative research design and data collection through review of existing qualitative studies and hands-on application. Homework and in-class exercises over the course of the semester give students practice in (a) designing a feasible qualitative research study, and (b) collecting three kinds of qualitative data: participant observation, in-depth interviews, and focus groups. The course concludes with an overview of steps for data analysis, including coding, memo-writing, and triangulation. Emphasized throughout the course are methodological issues germane to qualitative (and quantitative) research: reflexivity of the researcher, appropriate treatment of human subjects, and obtaining quality data. Prerequisite: Admission to Graduate Public Health Program or Department Consent 3 credits, Letter graded (A, A-, B+, etc.)

HPH 566 Clinical Trials

This course introduces the design, conduct, and analysis of clinical trials. Topics will include types of clinical trials, study design, treatment allocation, randomization and stratification, quality control, sample size requirements, patient consent, and interpretation of results. 2 credits, Letter graded (A, A-, B+, etc.)

HPH 575 Public Health Internship

This course is an applied internship in a public, not-for-profit, or private sector organization that provides a public health service. Students will gain practical public health skills though a semester long internship. The student will work in the organization and prepares a weekly journal of activities, as well as a paper at the conclusion of the course, applying program knowledge to the internship activities. Graduate Graded and may be repeated for credit. MPH Academic Coordinator consent required. Prerequisite: Admission to Graduate Public Health Program and Department Consent 0-12 credits, Letter graded (A, A-, B+, etc.)

HPH 580 Practicum

The Practicum is a planned experience in a supervised and evaluated public health-related practice setting. A journal of fieldwork and a project, with a written report, are required. Students will be expected to demonstrate their "capacity to organize, analyze, interpret and communicate knowledge in an applied manner." Health departments, as well as a variety of other local organizations, offer a wide array of potential sites for the Practicum experience. Permission of MPH Academic Coordinator is required. Prerequisite: Admission to Graduate Public Health Program and Department Consent 3 credits, Letter graded (A, A-, B+, etc.)

HPH 581 Capstone

This course will assist students in synthesizing the basic public health knowledge through completion of a Capstone Project. Most core and concentration course work must be complete before the student can participate in the Capstone Seminar. Permission of MPH Academic Coordinator is required. Prerequisite: Admission to Graduate Public Health Program and Department Consent 3 credits, Letter graded (A, A-, B+, etc.)

HPH 585 Introduction to Biostatistics & Epidemiology

This course is an introduction to the principles of statistical methods and epidemiology and their application in the health sciences. The student will develop a basic understanding of statistics, epidemiology, and interpretation of research studies in order to communicate risk and scientific evidence to colleagues and the public, directly or through the press. Prerequisite: Admission to Graduate Public Health Program or Department Consent 4 credits, Letter graded (A, A-, B+, etc.)

HPH 599 Maintenance of Matriculation
This course is for students who are maintaining matriculation while engaging in consultation with faculty regarding completion of courses and/or master’s project. Students will be graded S/F. Prerequisite: Admission to Graduate Public Health Program and Department Consent
0-3 credits, S/F graded

HSC

HSC 500 Health, Sciences and Society
Interdisciplinary course for HSC students (Nursing, Social Welfare, Dental Medicine, Health Technology and Management, Medicine and Public Health). Topics include communication, health economics, scope of practice, ethics, law, policy, public health and medical informatics.
3 credits, Letter graded (A, A-, B+, etc.)

HTM

HTM 39 Radiologic Technology Program
This course is offered as a continuation of the Health Science major concentration in Radiologic Technology. The course contains both a clinical and didactic component, and satisfies the clinical requirements necessary to be eligible for the national registry and certification exams as well as NYSDOH licensing.
0 credit, S/F graded

HTM 49 Radiation Therapy Program
This course is offered as a continuation of the Health Science major concentration in Radiation Therapy. The course contains both a clinical and didactic component, and satisfies the clinical requirements necessary to be eligible for the national registry and certification exams.
0 credit, S/F graded

HTM 59 Nuclear Medicine Technology Program
This course is offered as a continuation of the Health Science major concentration in Nuclear Medicine Technology. The course contains both a clinical and didactic component, and satisfies the clinical requirements necessary to be eligible for the national registry and certification exams.
0 credit, S/F graded

HTM 69 Medical Dosimetry Program
This course is offered as a continuation of the Health Science major concentration in Medical Dosimetry. The course contains both a clinical and didactic component.
0 credit, S/F graded

HTM 79 EMT-Paramedic Program
The EMT-Paramedic training program is designed to train effective and compassionate paramedics in accordance with standards established by the United States Department of Transportation. Upon successful completion of the program, students will be eligible to take examinations for national and New York State certification
0 credit, S/F graded

HTM 99 Anesthesia Technology Program
This course is offered as a continuation of the Health Science major concentration in Anesthesia Technology. The course contains both a clinical and didactic component, and satisfies the clinical requirements necessary to be eligible for the national registry and certification exams.
0 credit, S/F graded

HWC

HWC 210 Introduction to Social Work
Introduces the student to the field of social work. Provides an overview of the variety of settings in which social workers practice. Describes the knowledge, values, and skills which social workers use in order to help individuals, families, groups, and communities.
1 credit

HWC 300 Introduction to Fields of Practice
This course exposes students to various social service delivery systems. Field visits, reports, guest speakers, lectures, and small group discussion are included. Agencies such as youth development associations, public schools, criminal justice systems, mental health and health systems will be observed. The social worker’s role in such agencies, and identification and utilization of community resources are emphasized.
4 credits

HWC 301 Field Education I
Places students in settings conducive to generalist practice. Prepares students to fulfill social work roles and functions within the social welfare system. Supervision provided by an M.S.W. Students graded S/F. Must be taken concurrently with HWC 306. Prerequisites: HWC 300 and 305
6 credits, S/F graded

HWC 302 Field Education II
A continuation of HWC 301. Students will be graded S/F. Must be taken concurrently with HWC 307. Prerequisites: HWC 300, 301, 305 and 306
6 credits, S/F graded

HWC 304 Contemporary Social Justice Issues
This course explores the meaning of social justice and its presentation in our society. Examines the impact of social injustice and discusses the individuals, organizations, and communities who fight to combat the presence of injustice. Provides an understanding of social problems and the plight of populations who do not benefit from a socially just society. Analyzes effective methods utilized to eradicate the sources of oppression and organizational responses that address
injustice and bring balance to the equitable experiences of individuals, groups, and communities.

3 credits

**HWC 305 Practice Processes in Social Work I**

This course is the first of a three-semester sequence (HWC 305, 306, 307) designed to develop students values, knowledge and skill base in order to enable them to work as generalist practitioners in various social work areas of practice. This course focuses on beginning development of social work knowledge, values, and skills in engagement, assessment, and intervention across the spectrum of social work practice. Emphasis is on practice skills in problem/need identification and prioritization, data collection, strength based assessment, goal setting, selection and implementation of appropriate interventions, evaluation and endings. It is organized around the values of respect for the dignity of others, appreciation of cultural differences and diverse lifestyles, belief in the right of self-determination, confidentiality and the right for the client(s) to participate in goal setting and the implementation of action. The course aim is to provide students with an understanding of 1) the ecological perspective in examining the situation; 2) the problem solving process utilized in social work intervention; 3) the strengths perspective in assessment, intervention and evaluation; 4) the ability to evaluate the effectiveness of interventions taking into account human diversity and services to historically oppressed and devalued people; and 5) how the policies of the agency facilitate or hinder the provision of needed services. It will also focus on a beginning development of professional self-assessment and identity. Must be taken concurrently with HWC 300.

3 credits

**HWC 306 Practice Processes in Social Work II**

The School of Social Welfare recognizes that the problems facing individuals with whom social workers are concerned evolve from the existence, nature and impact of oppression. This belief acknowledges that many human problems reflect the workings of social systems, which oppress members of specific groups in society. In this course, we will build on the knowledge, values and skills of the processes discussed in HWC 305. Students will further their knowledge of structural oppression and develop greater understanding of their roles as change agents and methods used across the micro-mezzo-macro levels of practice. Students will further develop their application of: 1) needs and strengths assessment; 2) problem identification and definition; 3) direction planning; 4) collaborative goal determination; 5) information gathering/investigation; 6) implementation; and 7) assessment and evaluation. Must be taken concurrently with HWC 301 and HWC 315. Prerequisites: HWC 300 and 305.

3 credits

**HWC 307 Practice Processes in Social Work III**

This course builds on the generalist foundation of social work practice courses, HWC 305 and HWC 306 and continues the development of the student's professional identity for work in the various social welfare fields of practice. It will emphasize the generalist social work approach in working across the micro-mezzo-macro levels of practice, as well as explore the nature and application of a variety of interventive modalities. It will provide knowledge and skills in areas of generalist social work practice, within the framework of social work values, a strengths perspective and the School's mission of empowerment, valuing diversity, overcoming oppression and striving for social justice. Must be taken concurrently with HWC 302 and HWC 316. Prerequisites: HWC 301 and HWC 306.

3 credits

**HWC 308 Human Behavior and the Social Environment I**

Introduces a framework for understanding how individuals and families grow, develop and change within their social environment. Interpersonal, intrapersonal and sociostructural theories and their impact on special populations, especially groups that have been historically oppressed, devalued and alienated in society are critiqued.

3 credits

**HWC 309 Human Behavior and the Social Environment II**

A continuation of HWC 308. This course emphasizes an understanding of the life course, the role of time, social events, trauma and the developmental process. Social institutions and their impact on people generally oppressed in society and the role of empowerment are examined. Prerequisite: HWC 308

3 credits

**HWC 310 The Political Economy of Social Welfare**

This course introduces a political economic framework for viewing social welfare in the United States. Basic political economic determinants of social problems, policies and programs are examined. This course focuses on the role of the state, conflict, power, class structure and ideology as they relate to such problems as poverty, inequality, racism and sexism.

3 credits

**HWC 311 Social Welfare Policy, Services and Analysis**

This course presents the history and basic concepts underlying the development of social welfare in the United States. Identification and interrelationships of social values and structures, political factors and economic conditions in understanding the evolution of social welfare and the profession of social work are emphasized. Presents an analytical framework which enables students to examine social welfare policy according to a disciplined, systematic process built upon the values of social justice and equality, empowerment and self-determination.

3 credits

**HWC 312 Social Welfare Policy and Institutional Oppression**
Builds upon the foundation provided in HWC 311 and expands the student's understanding of the complex interrelationships characterizing American society which result in social injustice, inequality and oppression. Views the policies and programs of the public welfare, health, mental health, housing and criminal justice systems through the lens of five basic sources of oppression in American society: racism, sexism, classism, ageism and heterosexism. Prerequisite: HWC 311
3 credits

HWC 313 Research in Social Work I
This course provides instruction in introductory concepts and methods of social research. Focuses on examining the various methods researchers use to collect data relevant to social work practice, such as survey, experimental design, field research and unobtrusive design.
3 credits

HWC 314 Research in Social Work II
Explicates data analytic procedures used in analyzing data relevant to social work practice. Examines basic descriptive statistics (e.g., frequencies and percentages, mean, median, mode, variance, standard deviation) and bivariate (e.g., Pearson's r, chi-square, t-test) as the major focus of the course.
3 credits

HWC 315 Integrating Seminar I
Provides an opportunity for the integration, within the framework of the mission of the school, of the knowledge, skills and professional values acquired and developed through course work and field education experience. Taken concurrently with 301 and 306.
3 credits

HWC 316 Integrating Seminar II
Builds on HWC 315. Taken concurrently with 302 and 307.
3 credits

HWC 317 Issues in Death and Dying; Loss and Separation
This course provides an overview of the knowledge, values, policy and skills underlying effective entry-level practice with dying and grieving clients. The interrelationship of psychological, interpersonal, family, institutional, community and cultural dynamics of dying and grieving are covered. Permission required for students not enrolled in the School of Social Welfare.
3 credits

HWC 321 Ethnic Sensitive Social Work Practice
Provides a theoretical framework and focuses on the development of skills necessary to provide effective culturally sensitive social work services to diverse individuals, families, groups and communities. The special problems faced by groups traditionally devalued and oppressed are examined. Skills in working for institutional change and social justice are emphasized.
3 credits

HWC 323 Growing Old in America: The Social Conditions Policy and Practice Implications
Explores the social, political and economic conditions related to aging in this society. Identifies social policies and program formats that enhance wellness and support dependencies from a positive perspective.
3 credits

HWC 324 Children and Adolescents Who Grieve
Focuses on issues related to bereavement in children and young people. Children and adolescents who struggle with the crisis of loss is a special population that is often overlooked. Students explore the emotional response of young people who grieve. Mental health professionals that provide treatment to this population must acquire specialized knowledge and skills to assist in healing wounded children. Upon completion, students will have an increased understanding of the developmental implications of loss in childhood, assessment of bereavement, and treatment interventions specific to bereaved children and adolescents.
3 credits

HWC 325 Anger Management
This course presents an overview of concepts of anger management within a holistic context. Students learn how to recognize external manifestations of anger in themselves, clients, organizations and communities. Anger management strategies that can be taught to clients as part of an intervention plan will be introduced. Environmental and societal factors as “igniting events” of anger in individuals, families, groups and communities are examined.
3 credits

HWC 326 Crisis Intervention: Opportunities for Change
This course provides theoretical and substantive content that will enable students to gain knowledge, understanding, and skill in relation to crisis intervention in social work practice. This course defines crisis, provides examples of the types of crises workers will face in various fields of practice, explores the role of the social worker, and the range of interventions needed in response to crisis situations. Permission required for students not enrolled in the School of Social Welfare.
3 credits

HWC 329 Complementary and Alternative Medicine
Human service workers are often required to discuss issues of health and healing. Many individuals, by virtue of their culture, experiences and/or choice, often adhere to a combination of nontraditional and traditional beliefs regarding health care. This course familiarizes students with those methods and beliefs most often found in specific cultures. Students will develop an appreciation of each practice in order to interact with clients from a strengths perspective and will gain an international perspective on health care modalities.
3 credits
**HWC 330 Case Management in Human Services**

Case management has grown dramatically in the human service field over the last twenty years in response to the growing service needs of individuals and families facing complex life situations and issues. It examines both the macro and micro level issues facing case managers and agencies as they provide quality services to often oppressed populations. 3 credits

**HWC 339 Ancestral Health Practices**

There is an increasing integration of complementary medicine and allopathic medicine. As health professionals, it is important to understand the beliefs and practices of our clients in order to maximize their options and choices. Professionals must be knowledgeable about the healing traditions anchored in different cultures and ethnicity. 3 credits

**HWC 340 Social Issues in Popular Culture**

Movies have been a useful medium that can illustrate current social issues and family dynamics, as well as policy and research dilemmas. Each week, a film with a central practice/research/policy issue provides the basis for a lecture and class discussion. Topics focus on a variety of social issues such as family dynamics, bereavement, adoption, domestic violence, abuse, residential placement, policy and research. 3 credits

**HWC 343 Working with Children of Alcoholics and Substance Abusers**

Deals with children of alcoholic parents, how parents illnesses affect the social, emotional and educational development of their children, and the survival roles children assume in order to live in troubled, alcoholic families. It emphasizes identification and intervention strategies with children who suffer from parental alcoholism when they are seen in settings other than home or social service agencies, such as school and youth programs. 3 credits

**HWC 344 Overview of Substance Abuse**

This course is an examination of the history and development of alcohol and substance abuse problems in the United States. It focuses on the etiology, psychopharmacology and legal ramifications of the use of licit and illicit substances in our culture. The course provides information on a variety of services available to drug abusers, addicted individuals and their families in the fields of prevention, education and treatment. Permission required for students not enrolled in the School of Social Welfare. 3 credits

**HWC 349 Overview of Social Work with Special Populations**

This course examines the issues that social workers must consider when working with traditionally disenfranchised populations. Emphasis will include micro and macro issues when intervening with gay and lesbian individuals, members of diverse racial and ethnic groups, and women, as well as others. The historic as well as contemporary experiences of these individuals interactions with the health and human service delivery system will be explored. 3 credits

**HWC 351 Law and Social Change**

This course introduces students to the interrelationship of the legal process in the United States and the profession of social work. Focuses on the legal process in general, social welfare law, in particular, and the implications for effective social work practice. Permission required for students not enrolled in the School of Social Welfare. 3 credits

**HWC 361 Implications of Racism for Social Welfare**

This course examines personal and institutional racism in the United States and the effect racism has on the delivery of services to individuals who do not fit the traditional "American model". It examines the historical relationship between racism and social welfare policies, programs and practice, as well as contemporary strategies for change. 3 credits

**HWC 362 Implications of Child Abuse and Maltreatment**

Introduces child maltreatment via its history and how its recognition progressed to spur many to become advocates for the prevention of child abuse. Topics include identification, reporting and interviewing. Social and economic pressures on the family are examined. 3 credits

**HWC 363 Homelessness, Politics and Public Health**

This course analyzes homelessness as an issue of social policy, including its history, recent causes and current demographics. Emphasizes the political and economic context that has made homelessness a major social problem. 3 credits

**HWC 364 The Impact of Sexual Assault**

Introduction to the incidence and prevalence of childhood sexual abuse. Covered are definition issues, family dynamics, symptoms, assessment techniques, treatment modalities and strategies utilized with the survivor. Issues related to offenders and offender treatment are addressed, as well as ethical and legal dilemmas. Cultural dynamics in sexual abuse related to childhood sexual trauma will be emphasized. Students should develop an understanding and ability to critically analyze current research. 3 credits

**HWC 369 Youth and Violence**

This course examines the etiology of youth at risk for violence, using ecological and interpersonal perspectives. Family, school and community risk factors are outlined as well as assessment, intervention and treatment issues. Successful
prevention programs are highlighted. Permission required for students not enrolled in the School of Social Welfare.

3 credits

HWC 375 Child Welfare: An Overview
This course covers the impact of historical and contemporary developments within the field of child welfare. It examines the evaluation of child welfare services and the role of child care workers. Examines out-of-home care, foster care, group home care and institutional care within the context of traditional public/voluntary structure of services and the social/political context. Services in relation to the changing roles of the family and emergence of child care are covered.

3 credits

HWC 379 Special Topics in Social Welfare
These courses examine significant timely issues confronting the profession. Topics include violence as a public health problem, issues of aging, racism, gender, AIDS, the media, and others. Topics vary each term as faculty develops specific modules that address one or more of these issues. Permission required for students not enrolled in the School of Social Welfare.

3 credits

HWC 380 Overview of Family Violence
This course is an overview of the phenomenon of family violence in the United States including child abuse, intimate partner violence (IPV) and elder abuse. Incidence and prevalence regarding each form of family violence will be reviewed as well as etiology, current evidence-based treatment modalities and competing political ideologies. Particular focus will be on the current research for each type of family violence and policy directives that emanate. This course also explores theories of etiology, including patriarchy, intergenerational family dynamics and substance abuse. It examines programmatic approaches and programs for batterers and prevention strategies. Co-scheduled with HWC 380.

3 credits

HWC 390 HIV / AIDS
This course focuses on the central aspects of the HIV/AIDS Pandemic, including the state of medical knowledge, HIV/AIDS and the law, prejudice and discrimination, AIDS activism and organizing, grief/death/dying, psychosocial issues, redefining the medical model, homophobia, racism, sexism and ableism in research, treatment and policy, IV drug use, drug treatment and other related issues. Upon completion of this course, students will have met the educational requirements established by the HIV Primary Care Medicaid Provider Agreement. This requirement is needed to conduct HIV pre- and post-test counseling in hospitals and clinic settings. Co-scheduled with HWC 390.

3 credits

HWC 395 Independent Study
Independent study with an individual faculty member. 1-3 credits

HWC 399 Maintenance of Matriculation
For students who are maintaining matriculation while engaging in consultation with faculty regarding completion of courses. Students will be graded S/F.

1 credit, S/F graded

HWC 500 Field Education I
Placement in practice settings under supervision of a licensed M.S.W. Students will be graded S/F. Must be taken concurrently with HWC 513.

4-6 credits, S/F graded

HWC 501 Field Education II
A continuation of HWC 500. Students will be graded S/F. Must be taken concurrently with HWC 514. Prerequisites: HWC 500 and 513.

4-6 credits, S/F graded

HWC 502 Field Education III
Placement in advanced social work practice settings. Supervision provided by a licensed M.S.W. Students will be graded S/F. Must be taken concurrently with HWC 515 and 516. Prerequisites: HWC 500, 501, 513 and 514

4-6 credits, S/F graded

HWC 503 Field Education IV
A continuation of HWC 502. Students will be graded S/F. Must be taken concurrently with HWC 517 and 518. Prerequisites: HWC 502, 515 and 516

4-6 credits, S/F graded

HWC 504 Human Behavior and the Social Environment: Critical Applications of Social Work Theory
This course applies a multi-theoretical and critical approach to social inquiry in the examination of complex theories, metaperspectives, and knowledge about individuals, families, groups, organizations, institutions and urban, suburban, and rural communities. The course encourages students to maintain a view of people and their environments as heterogeneous and sociohistorically embedded, as well as adaptable and resilient. Throughout the course, special consideration is given to social and cultural diversity. Students will develop a multi-dimensional (e.g., social, psychological and cultural) understanding of human behavior as applied to contemporary issues in social work practice. Class meets two hours in-class and one hour of instructor directed assignments.

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

HWC 505 Integrating Seminar
This course extends the work covered in HBSE, by applying human behavior theory to social work practice situations. Students will integrate knowledge and skills acquired in social work practice, social justice, policy, field education and research courses to social and clinical issues across diverse topics. Class activities include experiential assignments and project based learning. This course prepares students to practice in interdisciplinary environments. Class meets
two hours in-class and one hour of instructor directed assignments. Prerequisite: HWC 504
3 credits, Letter graded (A, A-, B+, etc.)

HWC 506 Social Work in Health

This course recognizes the centrality of health as an issue in all people's lives. The issue of health and well-being are issues of concern regardless of practice setting or intervention modality utilized. It is with this in mind, that the School embraces the concept of health as an organizing principle and theme. Serves as an introduction to the concept of health and its connection to social work. The healthcare delivery system, managed care, healthcare financing, epidemiology, ethics, and complimentary medicine are addressed. The impact of race and culture on the health status of people in this society are covered. Current major public health problems are also addressed. Class meets two hours in-class and one hour of instructor directed assignments.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 507 Master's Project

Students complete a master's project under the sponsorship of a faculty member. Advanced Practice Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 508 Continuation of Master's Project

A continuation of HWC 507 for students who did not finish their Master's Project during the term in which they had registered for it. Students will be graded S/F. Advanced Practice Elective. Prerequisite: HWC 507
0 credit, S/F graded

HWC 509 Foundations of Social Justice: Challenging Oppression

This course explores the meaning of social justice within the context of political economy, human nature, and health policy. Examination will include the relation of historical implications within contemporary discourse. This course will analyze the foundations of power, privilege, and prejudice in the United States through the lens of social work ethos that values human rights, equality, respect, and health for all. Emphasis will be placed on the identification of social injustice, challenging institutional oppression, and the creation of effective methods to empower marginalized and oppressed populations. Class meets two hours in-class and one hour of instructor directed assignments.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 510 Social Policy and Social Determinants

This course builds upon the Foundations of Social Justice: Challenging Oppression course through the discussion and exploration of social policies, social determinants of health, and contemporary & historical social movements that have arisen to challenge oppression. This course utilizes frameworks for social policy analysis while addressing continuing dilemmas in policy development. Experiential learning and beyond-the-classroom experiences introduce students to the processes and dynamics of social movements, social change, and their effects on social policy. Class meets two hours in-class and one hour of instructor directed assignments. Prerequisite: HWC 509
3 credits, Letter graded (A, A-, B+, etc.)

HWC 511 Research I

Research I, is the first part of a two-semester course sequence designed to prepare social work students to engage in research informed social work practice and practice informed social work research and evaluation. The first semester (HWC511) provides an overview of the research process from both quantitative and qualitative perspectives and examines how a critical approach to research may form the basis of evidence-based social work practice and client empowerment. The course goes on to examine those elements of the research process that are common to all methodologies: the ethical conduct of research; literature searches and reviews; development of research questions and hypotheses; measurement; and sampling procedures. Quantitative data analysis is introduced in the form of univariate/descriptive statistics. Class meets two hours in-class and one hour of instructor directed assignments.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 512 Research II

Research II is the second part of a two-semester course sequence designed to prepare social work students to engage in research informed social work practice and practice informed social work research and evaluation. The second semester (HWC512) follows-up on the first by examining specific data collection methods (experiments; surveys; interviews; focus groups; ethnographies; etc.), with attention given to understanding how these methods are used appropriately in social work research and evaluation processes. Quantitative data analysis procedures at the bivariate and multivariate levels (t-tests; ANOVA; correlation; regression; chi-square test, etc.), hypothesis testing, inferential statistics, and computer assisted data analysis using SPSS will be presented in the context of appropriate data collection methods. Emphasis placed on research proposal development and critical evaluation of research reports. Class meets two hours in-class and one hour of instructor directed assignments. Prerequisite: HWC 511
3 credits, Letter graded (A, A-, B+, etc.)

HWC 513 Social Work Practice I

Provides a foundation for generalist practice, including the knowledge base, values and skill development necessary for ethical and effective practice with individuals, families, groups and communities. Students are introduced to the helping process across client systems and across the life span through a strengths perspective and empowerment approach to practice. Evidence-based short-term therapies are used to guide direct practice to address resilience and human development. Class meets two hours in-class and one hour of instructor directed assignments. Must be taken concurrently with HWC 500.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 514 Social Work Practice II

A continuation of HWC 513. Revisits the helping process in greater depth with specific reference to special consideration
for work with families, groups, communities and organizations. The broad range of social work roles across client systems is considered. Deepens knowledge of generalist practice, ethical practice and skill development. Must be taken concurrently with HWC 501 and 504. Class meets two hours in-class and one hour of instructor directed assignments. Prerequisites: HWC 500 and 513
3 credits, Letter graded (A, A-, B+, etc.)

**HWC 515 Advanced Social Work Micro Practice I**

Focuses on the helping process with integration of increased understanding of the significance of transactions between people and their environments. Emphasizes development of advanced theory and practice skills. A focus is placed on developing assessment and diagnosis skills alongside understanding client's defenses, coping mechanisms, and the genetic, familial, cultural, and social factors that influence psychiatric diagnoses. The ethical considerations, evaluation of intervention effectiveness, service delivery in an agency context, professional role and conduct are woven throughout the course. Class meets two hours in-class and one hour of instructor directed assignments. Must be taken concurrently with HWC 502 and 515. Prerequisites: HWC 500, 501, 513 and 514
3 credits, Letter graded (A, A-, B+, etc.)

**HWC 516 Advanced Social Work Macro Practice I**

Emphasizes the understanding of theories and the development of advanced skills key to practice with groups, communities and organizations. Focus is placed on leadership development in the health and social welfare fields. Ethical considerations are introduced. Class meets two hours in-class and one hour of instructor directed assignments. Must be taken concurrently with HWC 502 and 515. Prerequisites: HWC 500, 501, 513 and 514
3 credits, Letter graded (A, A-, B+, etc.)

**HWC 517 Advanced Social Work Micro Practice II**

Emphasizes professional responsibilities for ongoing self-assessment and developing a critically reflective stance to practice. Concentrates on skill development and working with populations at risk; a concurrent major focus is placed on the different theoretical perspectives, evidence-based social work practice models and interventions. A critical analysis of case material and social systems designed to meet client system needs is stressed toward the development of micro or clinical interventions and ethical issues that may arise within a variety of settings and client systems, most particularly the individual, family, group, organization, and community. Class meets two hours in-class and one hour of instructor directed assignments. Must be taken concurrently with HWC 503 and 518. Prerequisites: HWC 502, 515 and 516
3 credits, Letter graded (A, A-, B+, etc.)

**HWC 518 Advanced Social Work Macro Practice II**

Emphasizes advanced theory and practice skills in community organization and program development. Focus is placed on strategic planning, management, evaluation, policy analysis and development, program development, and organizational analysis and change as applied in the health and social welfare fields. Class meets two hours in-class and one hour of instructor directed assignments. Must be taken concurrently with HWC 503 and 517. Prerequisites: HWC 502, 515 and 516
3 credits, Letter graded (A, A-, B+, etc.)

**HWC 519 Psychopathology and Psychopharmacology**

This course focuses on the concepts of mental health, mental disorders and the influence of culture on both. The mental health concerns of diverse social, racial and ethnic groups, particularly those historically devalued and oppressed are covered. In addition, the use and misuse of the classification system of the Diagnostic Statistical Manual (DSMIV) are examined. This examination includes the distinction between major mental disorders and other forms of dysfunctional behavior and the recognition of symptoms. Assessment of psychosocial functioning within a multi-cultural and gender role frame is emphasized. Social work values, roles, responsibilities and ethical considerations are detailed throughout the course. The role of the social worker as an integral member of the interdisciplinary mental health team is discussed. Class meets two hours in-class and one hour of instructor directed assignments. Prerequisites: HWC 500, 501, 504, 513 and 514
3 credits, Letter graded (A, A-, B+, etc.)

**HWC 520 Advanced Social Work Practice with the Aged**

This course examines concepts and strategies for working with the elderly at the primary, secondary and tertiary levels of intervention. It presents and critically analyzes a variety of approaches in working with the elderly and their families. Interventions with the well elderly living in the community, the elderly who suffer some disabilities but who are still living in the community and the elderly who are institutionalized are examined. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective. 3 credits, Letter graded (A, A-, B+, etc.)

**HWC 521 Ethnic Sensitive Social Work Practice**

Provides a theoretical framework and focuses on the development of the skills necessary to provide effective culturally sensitive social work services to diverse individuals, families, groups and communities. The special problems faced by groups traditionally devalued and oppressed are examined. Emphasizes skills in working for institutional change and social justice. Class meets two hours in-class and one additional hour of instructor directed assignments. Enrichment Elective. 3 credits, Letter graded (A, A-, B+, etc.)

**HWC 522 Human Sexuality**

This course identifies personal attitudes and judgments about sexually related behaviors. Critically examines factual information derived from research in human sexuality and covers a wide range of sexual behavior from a knowledge...
HWC 523 Growing Old in America: The Social Conditions-Policy and Practice Implications

Explores the social, political and economic conditions related to aging including long-term care in this society. Identifies social policies and program formats that enhance wellness and support dependencies from a positive perspective. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 524 Children and Adolescents Who Grieve

Focuses on issues related to bereavement in children and young people. Children and adolescents who struggle with the crisis of loss is a special population that is often overlooked. Students explore the emotional response of young people who grieve. Mental health professionals that provide treatment to this population must acquire specialized knowledge and skills to assist in healing wounded children. Upon completion, students will have gained an increased understanding of the developmental implications of loss in childhood, assessment of bereavement, and treatment interventions specific to bereaved children and adolescents. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 525 Anger Management

This course presents an overview of concepts of anger management within a holistic context. Students learn how to recognize external manifestations of anger in themselves, clients, organizations and communities. Anger management strategies that can be taught to clients as part of an intervention plan will be introduced. Environmental and societal factors as “igniting events” of anger in individuals, families, groups and communities are examined. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 526 Crisis Intervention: Opportunities for Change

This course provides theoretical and substantive content that will enable students to gain knowledge, understanding, and skill in relation to crisis intervention in social work practice. This course defines crisis, provides examples of the types of crises workers will face in various fields of practice, explores the role of the social worker, and the range of interventions needed in response to crisis situations. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 527 Social Work in the Political Process-Campaign School

Limited to 15 second-year students. Instructor consent is required. The purpose of the course is to advance students’ understanding of the political process and to expand students’ repertoire of skills for participation in the political process. A prime focus is deepening students’ commitment to engaging in the political process as a significant form of social work practice for social change. This is a hybrid course combining online content, in-class participation as well as required attendance at a 2-day Campaign School workshop at the University of Connecticut School of Social Work in West Hartford. Advanced Practice Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 529 Complementary and Alternative Medicine

Human service workers are often required to discuss issues of health and healing. Many individuals, by virtue of their culture, experiences and/or choice, often adhere to a combination of nontraditional and traditional beliefs regarding healthcare. This course familiarizes students with those methods and beliefs most often found in specific cultures. Students will develop an appreciation of each practice in order to interact with clients from a strengths perspective and will gain an international perspective on healthcare modalities. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 530 Case Management in Human Services

Case management has grown dramatically in the human service field over the last twenty years in response to the growing service needs of individuals and families facing complex life situations and issues. Examines both the macro and micro level issues facing case managers and agencies as they provide quality services to often oppressed populations. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 533 Family Intervention in Health and Mental Health

This course focuses on family and marital problems. Environmental, social, economic, psychological and institutional pressures that affect family functioning are examined. Emphasis is placed on intervention skills. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 538 Death and Dying; Loss and Separation

This course explores student values, attitudes, fears and conceptions relating to death and dying. Issues of loss and separation in relation to various age groups, cultural orientations and societal expectations are examined. The focus is on the acquisition of bereavement counseling skills. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective.
3 credits, Letter graded (A, A-, B+, etc.)
HWC 539  Ancestral Health Practices

There is an increasing integration of complementary medicine and allopathic medicine. As health professionals, it is important to understand the beliefs and practices of our clients in order to maximize their options and choices. Professionals must be knowledgeable about the healing traditions anchored in different cultures and ethnicity. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 540  Social Issues in Popular Culture

Movies have been a useful medium that can illustrate current social issues and family dynamics as well as policy and research dilemmas. Each week a film with a central practice/research/policy issue provides the basis for a lecture and class discussion. Topics focus on a variety of social issues such as family dynamics, bereavement, adoption, domestic violence, abuse, residential placement, policy and research. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 541  Youth and Violence

Examines the etiology of youth at risk for violence, using ecological and interpersonal perspectives. Family, school and community risk factors are outlined as well as assessment, intervention and treatment issues. Successful prevention programs are highlighted. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 542  Social Work with Children: The Social Worker's Role

This course is designed to provide an understanding of the special issues and concerns surrounding work with children. Professional dilemmas and guidelines to aid practice are identified. Special issues involved in work with young children are highlighted. Although the focus is on direct work with children, a family-centered approach is presented. Practitioner roles, the impact of service settings, policy and legislation affecting this area of practice are reviewed as is the knowledge base that serves to guide practice, including formulations of practice theory and empirical research findings. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 544  Overview of Substance Abuse

This course is an examination of the history and development of alcohol and substance abuse problems in the United States. It focuses on the etiology, psychopharmacology and ethical and legal ramifications of the use of licit and illicit substances in our culture. The course provides information on a variety of services available to drug abusers, addicted individuals and their families in the fields of prevention, education and treatment. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective.

HWC 545  Individual, Group and Family Treatment of Alcoholics and Substance Abusers

This course covers alcoholism and substance abuse as family illnesses and their stages of development, as well as the impact these illnesses have on the families of active and recovering alcoholics and substance abusers. Ethical dilemmas and treatment modalities including self-help Self-help groups and on traditional and relatively recent modalities used in the treatment of addicted individuals and their families are focused on. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 546  Working with Adult Children of Alcoholics and Substance Abusers

This course focuses on adult children of alcoholic parents and how parents' illness affects their children's social, emotional, and educational development from infancy to adulthood and into old age. Survival roles of children in alcoholic families and how these affect adult functioning are discussed. Examines ethical issues and the continuing effect family alcoholism has on adult children and the intervention strategies used in treatment. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 547  Managing Conflict

A major concern for health and human service managers is conflict in organization, community and group settings. The various types of conflicts and the concepts of negotiation and mediation as interventive strategies are considered. Didactic and experiential learning experiences are utilized. Focus is on analyzing conflict situations and selecting interventive strategies to reduce, contain or heighten the conflict situation. Oppressive conditions, structures and processes are considered major determinants of human suffering and individual and social problems; students examine how these affect adult functioning are discussed. Examines ethical issues and the continuing effect family alcoholism has on adult children and the intervention strategies used in treatment. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 548  Adolescent Development and Health Promotion

The effect on adolescent development of physiological changes, relationships with peers and family, and societal expectations are examined. Emphasis is on the development of assessment and engagement skills for working with adolescents and their families to help counteract adolescent self-destructive behavior and promote well-being. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective.
3 credits, Letter graded (A, A-, B+, etc.)
HWC 549 Overview of Social Work with Special Populations

This course examines the issues that social workers must consider when working with traditionally disenfranchised populations. Emphasis will include micro and macro issues when intervening with gay and lesbian individuals, members of diverse racial and ethnic groups, and women, as well as others. The historic as well as contemporary experiences of these individuals’ interactions with the health and human service delivery system will be explored. Class meets two hours in-class and one hour of instructor directed assignments. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective. 3 credits, Letter graded (A, A-, B+, etc.)

HWC 550 Culture-Centered Approach to Social Work Practice

This course provides students with an opportunity for self growth while preparing to work with individuals and their families from a culture-centered value base. Culture-centered foundation practice provides students with a frame of reference for better understanding and appreciation of the difference of their own culture from the cultures of others. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective. 3 credits, Letter graded (A, A-, B+, etc.)

HWC 551 Law and Social Change

This course introduces students to the interrelationship of the legal process in the United States and the profession of social work. Focuses on the legal process in general, social welfare law, in particular, and the implications for effective social work practice. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective. 3 credits, Letter graded (A, A-, B+, etc.)

HWC 552 Lesbians and Gay Men: Issues in Health Care

This course is an examination of the critical impact that healthcare policies and services have on lesbians and gay men in American society. Issues related to access to care, discrimination, services, health insurance, healthcare resources within geographical areas and the health status of lesbians and gay men are examined. It focuses on the issues that lesbians and gay men encounter in their interactions with the healthcare system. Enrichment Elective. 3 credits, Letter graded (A, A-, B+, etc.)

HWC 553 Chemical Dependency in Special Populations

This course covers alcoholism and substance abuse with populations that have been traditionally devalued and oppressed. It focuses on development of skills and sensitivity to ethical issues and the needs of ethnic groups, women, the elderly, the mentally ill and LBGTQ people who are chemically dependent. Policy and practice issues related to these populations are considered. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective. 3 credits, Letter graded (A, A-, B+, etc.)

HWC 555 Supervision in Health and Human Service Organizations

This course prepares social workers for the variety of tasks related to supervisory practice in health care agencies. Supervision is introduced as a teaching process, as an administrative function and as a program development tool. Emphasis is on helping workers function effectively with culturally diverse clients, populations at risk and the chronically ill. Content includes: historical perspective of supervisory practice; supervisor and agency structure; the organizational context of practice; learning theories; concepts of power, authority and accountability; ethical and clinical issues; supervisory techniques, skill and self awareness; staff and program development and evaluation. Advanced Practice Elective. 3 credits, Letter graded (A, A-, B+, etc.)

HWC 556 Proposal Writing in the Health and Human Service Fields

This course provides a comprehensive study of the principles and methods used to prepare program, training, research, demonstration and other types of proposals. Extensive workshop practice in developing appropriate writing skills and in locating and accessing funding sources is included. Advanced Practice Elective. 3 credits, Letter graded (A, A-, B+, etc.)

HWC 558 Human Services Administration

An introduction to the practice of administration of public and non-profit agencies, theories of management including alternative decision-making models, understanding of organizational structure and process, external and internal functions including interagency collaboration and personnel and financial management, affirmative action and ethical issues. The course combines theory with case examples, practical exercises and other experiential learning modes. Advanced Practice Elective. 3 credits, Letter graded (A, A-, B+, etc.)

HWC 559 Mental Health Evidence-Based Practice for Social Workers

This course develops the knowledge and skills necessary for working with individuals with a diagnosis of serious mental illness using recovery-oriented evidence-based practices. This course is designed for M.S.W. students and M.S.W. mental health practitioners. The course familiarizes students with evidence-based practices, within a recovery-oriented paradigm, as a general approach to practice as well as specific evidence-based interventions to use for individuals with a diagnosis of serious mental illness. Students should have a basic knowledge of serious mental illness as pre- or co-requisite, however a review will be provided. Research literature is examined to determine the various levels of support for specific interventions and essential principles for translating research into practice. Appropriate treatment outcomes that reflect effective quality mental health practice are identified. Focus is on providing assessment and treatment to a diverse group of individuals with a diagnosis of serious mental illness. Advanced Practice Elective. 3 credits, Letter graded (A, A-, B+, etc.)
This course examines personal and institutional racism in the United States and the effect racism has on the delivery of services to individuals who do not fit the traditional "American model". It examines the historical relationship between racism and social welfare policies, programs and practice, and contemporary strategies for change. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective.

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

HWC 563  Implications of Racism for Social Welfare

This course analyzes homelessness as an issue of social policy, including its history, recent causes and current demographics. It emphasizes the political and economic context that has made homelessness a major social problem. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective.

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

HWC 566  Student-Community Development Student Portfolio Project

Provides an opportunity for students to create a portfolio composed of various components that integrates the student's educational experiences and achievements in the Student-Community Development Specialization. Components may include literature reviews, abstracting research articles, analysis of field placements, and integration of social work and student affairs literature. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective.

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

HWC 568  The Workings of the Brain: Practice Issues for Social Workers

Addresses the organization, development and functions of the brain and how this influences how we think, feel and behave. Causes of organic changes in the brain such as substance abuse, disease and injury are addressed. Advances in neuroscience that have aided in diagnosis and social work practice are covered. Innovative treatment modalities such as EMDR, biofeedback and vagal nerve implants are presented. Strongly emphasizes the combination of science and practice issues. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective.

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

HWC 575  Child Welfare: An Overview

This course covers the impact of historical and contemporary developments within the field of child welfare. It examines the evaluation of child welfare services and the role of child care workers. It also examines out-of-home care, foster care, group home care and institutional care within the context of traditional public/voluntary structure of services and the social/political context. Services in relation to the changing roles of the family and emergence of child care are covered. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective.

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

HWC 577  Program Evaluation

This course provides an in-depth analysis of the technical requirements of program evaluation and the organizational and political constraints that influence the evaluation process. Techniques in the design and implementation of evaluation research in the health and human services fields are covered. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective. Prerequisites: HWC 511 and 512

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

HWC 578  Advanced Social Work with Groups

This course explores the principles and practice of group work in assisting clients to maximize psychosocial functioning. Class members will participate in an experience that encourages them to realize the power of group work process and usefulness of this modality. Group work techniques, context, dynamics, skills and the role of the group facilitator are discussed. In presenting group work with special populations students learn about the impact of issues including development, discrimination, illness, addiction and separation on the commonality of the human experience as it presents in group practice. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective.

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

HWC 579  Special Topics in Social Work

These courses examine significant timely issues confronting the profession. Topics include violence as a public health problem, issues of aging, racism, gender, AIDS, the media, and others. Topics vary each term as faculty develop specific modules that address one or more of these issues. Class meets two hours in-class and one hour of instructor directed assignments. Depending on topic the course may be an enrichment elective or advanced practice elective.

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

HWC 580  Overview of Family Violence

This course is an overview of the phenomenon of family violence in the United States including child abuse, intimate partner violence (IPV) and elder abuse. Incidence and prevalence regarding each form of family violence will be reviewed as well as etiology, current evidence-based treatment modalities and competing political ideologies. Particular focus will be on the current research for each type of family violence and policy directives that emanate. This course also explores theories of etiology, including patriarchy, intergenerational family dynamics and substance abuse. It examines programmatic approaches and programs for batterers and prevention strategies. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective.

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

HWC 581  Public Health and Community Health Intervention
This course examines many of the critical public health issues of today. Students gain an understanding of the concepts underlying social epidemiology and develop an appreciation of the ways in which the health status of different populations in this country is differentially impacted. Community health planning strategies (e.g. health promotion and health education) are examined. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective. 3 credits, Letter graded (A, A-, B+, etc.)

HWC 582 Organizational Dynamics and Legal and Ethical Issues in Health Care

This course examines some of the traditional, as well as newer, models through which healthcare services are delivered. Particular emphasis is given to the issue of access to health services as well as the location of the professional social worker within these systems. Students gain the ability to conceptualize many of the critical ethical and legal issues impacting the field today. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective. 3 credits, Letter graded (A, A-, B+, etc.)

HWC 584 Community Analysis and Health Promotion

Explores diverse concepts of community, analyzes a range of community structures, processes and power relationships. Investigates contemporary models, strategies and tactics of community organizing and health promotion in the United States and in selected other countries and emphasizes efforts made by poor people, ethnic minorities of color and women to organize and mobilize community groups and movements. Highlights group and community analysis and organization skills. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective. 3 credits, Letter graded (A, A-, B+, etc.)

HWC 588 Qualitative Health Research Methods

The class works as a team on a joint project. Topics include problem formulation, instrument construction, sampling strategy, interviewing, data transcription and data analysis. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective. Prerequisites: HWC 511 and 512 3 credits, Letter graded (A, A-, B+, etc.)

HWC 589 Biostatistics

This course is an introduction to the analysis and interpretation of quantitative data using bio-statistical methods. It examines three interrelated issues: the nature of quantitative data and their relationship to social, psychological and biological concepts, the different ways data can be presented to help others understand research questions and the answers to those questions, and the basic and intermediate bio-statistical techniques available for analyzing data. Focuses on how data relate to research questions that are of interest to workers in the healthcare field. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective. Prerequisites: HWC 512 or equivalent 3 credits, Letter graded (A, A-, B+, etc.)

HWC 590 HIV/AIDS

This course focuses on the central aspects of the HIV/AIDS Pandemic, including the state of medical knowledge, HIV/AIDS and the law, prejudice and discrimination, AIDS activism and organizing, grief/death/dying, psychosocial issues, redefining the medical model, homophobia, racism, sexism and ableism in research, treatment and policy, IV drug use, drug treatment and other related issues. Upon completion of this course, students will have met the educational requirements established by the HIV Primary Care Medicaid Provider Agreement. This requirement is needed to conduct HIV pre- and post-test counseling in hospitals and clinic settings. Class meets two hours in-class and one hour of instructor directed assignments. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective. 3 credits, Letter graded (A, A-, B+, etc.)

HWC 593 Student - Community Development Seminar I

This course introduces the Student-Community Development Model as an integrated application of social work, community organization and social work practice modalities. It introduces historical developments in higher education, student development theory and how political, socio-economic, cultural and health issues impact higher education. How these systems influence and shape student and community wellness on the college campus is emphasized. Contemporary higher education organizational structures, planning modalities and intervention strategies are examined to support social work practice in this setting. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective 3 credits, Letter graded (A, A-, B+, etc.)

HWC 594 Student - Community Development Seminar II

This course explores contemporary higher education organizational structures and appropriate intervention strategies for advancing positive systems change with the contact of higher education. A variety of current social issues on college campuses are examined to inform and support social workers as change agents within the arena of campus life. Leadership development and social work practice roles in this setting are emphasized. Class meets two hours in-class and one hour of instructor directed assignments. Advanced Practice Elective, 3 credits, spring semester 3 credits, Letter graded (A, A-, B+, etc.)

HWC 595 Independent Study

Independent study with an individual faculty member. Designation as enrichment or advanced practice elective is determined with faculty sponsor. 1-3 credits, Letter graded (A, A-, B+, etc.)

HWC 598 Issues in Higher Education
This course examines current issues which arise in institutions of higher education utilizing alternative conflict management and mediation models to provide the framework to examine a variety of social issues on college campuses. It explores such issues as diversity, violence, substance abuse and mental health. Class meets two hours in-class and one hour of instructor directed assignments. Class meets two hours in-class and one hour of instructor directed assignments. Enrichment Elective.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 599 Maintenance of Matriculation
For students who are maintaining matriculation while engaging in consultation with faculty regarding completion of courses and/or the Master's Project. Students will be graded S/F.
1 credit, S/F graded

HWC 600 Statistics I
Provides instruction in the computation, interpretation, and application of data analytic procedures used in social research. Discusses procedures such as descriptive statistics, chi-square, and t-tests, while examining their relevancy for analyzing issues in social work practice. Fall Term.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 601 Statistics II
Introduces students to multivariate techniques used in the analysis of various kinds of data. Analysis of Variance, Multiple Regression Analysis, Logistic Regression Analysis, and Log-Linear Regression Analysis, as well as more advanced techniques, such as path analysis and survival analysis, are discussed.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 602 Research Methods I
Presents an overview of the variety of research methodologies utilized in social science and social work, with the goal of providing students with the knowledge and competencies needed to develop and conduct their own research. The course will lead to a sophisticated understanding of the research process including the formulation of research questions, hypothesis development and testing, and choice of research method, involving both quantitative and qualitative methods. Material on quantitative designs will include experimental and quasi-experimental designs, data collection methodologies, scaling, instrument development, and sampling procedures. Material on qualitative designs will address focus groups interviews, key informant interviews, participant observation, unobtrusive observation, text and content analysis, and the use of archival and historical data. Special attention is given to ethical and political issues in the conduct of research.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 603 Research Methods II
A continuation of HWC 602 Research Methods I.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 604 Naturalistic and Qualitative Research
Considered is the application of alternative research methods for different questions. The distinction between quantitative and qualitative approaches and methods in the analysis of qualitative data is explored.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 606 Research Practicum I
Students undertake significant and methodologically rigorous research involving design, implementation, analysis, and dissemination of a research project. The substantive areas will include health, mental health, or substance abuse. School of Social Welfare faculty, affiliated faculty members from the Health Sciences Center and University social science departments, and principal investigators in community research projects will serve as preceptors. Students will spend ten hours each week for two semesters in a practicum setting. Students have a supervised hands-on, practical experience with an ongoing research project. Typical activities include data analysis, interpretation of results, research report writing, subject recruitment and screening, instrument development, or data collection. The primary objective is to strengthen students' ability to synthesize various phases and components of social research. A focus is on articulating linkages among the research questions, the data gathered to address these questions, the techniques selected for manipulating and analyzing the data, and the interpretation of findings. Students are encouraged to pursue publication stemming from the practicum. While the research practicum may not necessarily expose students to the specific population or problem of greatest interest to them, the skills or competencies mastered can prepare students methodologically to carry out their dissertation research plans.
3 credits, S/U grading

HWC 607 Research Practicum II
A continuation of HWC 606 Research Practicum I.
3 credits, S/U grading

HWC 608 Social Welfare Policy Analysis I
An analytical approach to public policy formulation in the areas of health, mental health, and substance abuse involving the impact of environmental forces on policy content. Considered are the effects of various institutional arrangements and political processes as well as inquiry into the consequences of various contemporary public policies. Tools and frameworks of policy analysis are examined. Policy alternatives and policy development and implementation are also considered.
3 credits, Letter graded (A, A-, B+, etc.)

HWC 609 Social Welfare Policy Analysis II
A continuation of HWC 608 Social Welfare Policy Analysis I. Prerequisite: HWC 608. Spring
3 credits, Letter graded (A, A-, B+, etc.)

HWC 610 Organizational Theory and Social Welfare Administration
The focus is on theories and methods available to planners and administrators who function in complex organizational settings. Decision making, political and economic factors, information systems, value conflicts, and adaptations of
rational models to emerging realities will be studied. Health and mental health programs will be utilized as exemplars. 3 credits, Letter graded (A, A-, B+, etc.)

**HWC 611 Knowledge Building in Social Work: The Philosophy of Applied Social Research**

An examination of the major currents of thought that shape the meta-theoretical, theroretical, and methodological issues related to knowledge building in social work. The impact of pragmatic philosophy on the current "science versus non-science" debate within social work is reviewed. Special attention is given to epistemological approaches and their relation to qualitative and quantitative research strategies. 3 credits, Letter graded (A, A-, B+, etc.)

**HWC 612 Social Science Theory for Social Welfare**

In this course, we explore the nature of social theory and the normative project of social welfare by examining theories of social justice, human rights and oppression. We consider the nature and structure of power, the role of ideology and their impact in a society defined by inequality. Social Construction and critical theory are particularly relevant as their assumptions align well with those of social welfare. Lastly, we explore the tensions and possibilities of democratic theories and ideals, given the current context, as a means to further social welfare's normative project. Throughout the course, students are challenged to explore existing theory and, importantly, to learn and engage in the process of theorizing, themselves. 3 credits, Letter graded (A, A-, B+, etc.)

**HWC 613 Seminar in Social Work Education**

Focus is on the place of social work education in the university with attention to issues of current concern such as the integration of professional education with the scholarly research focus of other academic disciplines. Consideration will be given to educational program structure, content, curriculum development, evaluation, and teaching methodologies. Students will be required to teach a course in the B.S.W. or M.S.W. curriculum under mentorship of a senior faculty member. 3 credits, Letter graded (A, A-, B+, etc.)

**HWC 614 Teaching Practicum**

The teaching practicum is a supervised experience in teaching at the master's or undergraduate level in the School of Social Welfare, or in some aspect of academic administration, such as curriculum development, project planning, and/ or proposal development. The educational practicum is typically available to doctoral students in the third year. An individualized plan will be developed for implementing the teaching practicum. Practica may include teaching a section of a required graduate/undergraduate course, working as a teaching assistant with a faculty member, and/or co-teaching and working with the curriculum committees and area sequences in curriculum development. 3 credits, S/U grading

**HWC 615 Dissertation Seminar I**

Students are expected to survey the current state of the art in their area of interest and to develop a written prospectus on a question suitable for dissertation research. In the second semester, students will refine dissertation proposals through presentation and critique in the seminar. Specific techniques and alternatives in studying a variety of dissertation questions are compared. 3 credits, Letter graded (A, A-, B+, etc.)

**HWC 616 Dissertation Seminar II**

A continuation of HWC 615 Dissertation Seminar I. 3 credits, Letter graded (A, A-, B+, etc.)

**HWC 679 Special Topics in Policy Research**

Discusses timely policy research issues such as violence as a public health problem, aging, racism, gender, AIDS, poverty and international social work. Topics vary each term as faculty develop specific modules that address one or more of these topics. Spring, 3 credits, Letter graded (A, A-, B+, etc.)

**HWC 695 Independent Study**

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

**HWC 699 Dissertation Research on Campus**

Dissertation research under direction of advisor. Fall, 1-9 credits, S/U grading

**HWC 700 Dissertation Research Off Campus - Domestic**

Prerequisite: Must be advanced to candidacy (G5). Major portion of research will take place off-campus, but in the United States and/or U.S. provinces. Please note, Brookhaven National Labs and the Cold Spring Harbor Lab are considered United States and/or U.S. provinces. Please note, Brookhaven National Labs and the Cold Spring Harbor Lab are considered United States and/or U.S. provinces. All international students must enroll in one of the graduate student insurance plans and should be advised by an International Advisor. Fall, Spring, 1-9 credits, S/U grading

**HWC 701 Dissertation Research Off Campus - International**

Prerequisite: Must be advanced to candidacy (G5). Major portion of research will take place outside of the United States and/or U.S. provinces. Domestic students have the option of the health plan and may also enroll in MEDEX. International students who are in their home country are not covered by mandatory health plan and must contact the Insurance Office for the insurance charge to be removed. International students who are not in their home country are charged for the mandatory health insurance. If they are to be covered by another insurance plan they must file a waiver be second week of classes. The charge will only be removed if other plan is deemed comparable. Fall, Spring, 1-9 credits, S/U grading

**HWC 800 Full Time SUMMER RESEARCH**

F T SUMMER RESEARCH

0 credit, S/U grading
MCR

MCR 501 Experimental Clinical Research
This course will (1) introduce trainees to formulation of a research question and hypothesis testing and; (2) introduce trainees to various research methodologies and how they are used to answer clinical research questions. This is not a clinical trials design course but rather is focused on how a clinical paradigm is used to formulate a research question and develop a hypothesis.
Summer, 1 credit, Letter graded (A, A-, B+, etc.)

MCR 506 Biostatistics I for Clinical Scientists
This is Part One of a two-part biostatistics training sequence. This course serves as an introduction to the principles and methodologies of biostatistics for clinical researchers. The material covered includes probability and distribution, descriptive statistics, point and interval estimation, hypothesis testing, correlation, linear regression, ANOVA, ANCOVA, logistical regression, survival analysis, and non-parametric tests.
Fall, 3 credits, Letter graded (A, A-, B+, etc.)

MCR 507 Biostatistics II
The second course in biostatistics in the clinical scientists training sequence is intended to further acquaint the trainees with the commonly used procedures covered in the first course and to learn to apply these procedures to real and simulated datasets using statistical software. As part of the course requirement, the trainees will need to complete a course project analyzing an appropriate research data set.
Spring, 3 credits, Letter graded (A, A-, B+, etc.)

MCR 514 Epidemiology for Clinical Scientists
The aims of this course are to introduce trainees to basic epidemiologic concepts, methods and topics, and to provide them with skills to critically evaluate published literature, interpret data, and develop and evidence based approach to medical practice. Upon completion, trainees will be able to apply basic epidemiologic principles and methods to problems encountered in clinical medicine. Co-requisite: MCR 506
Fall, 3 credits, Letter graded (A, A-, B+, etc.)

MCR 525 Contemporary Topics in Clinical and Translational Research
This monthly lunchtime seminar is designed to expose clinical and basic science students to contemporary topics in clinical and translational research. Topics include, "-Oomics", Biobanking and Biorepositories, Biomedical Informatics, Imaging and Big Data. Lunch will be provided.
1 credit, S/U grading

MCR 549 Legal and Regulatory Issues in Clinical Research
Major contemporary legal and regulatory issues associated with scientific research will be discussed. Additionally, this course will introduce students to the history behind the regulations that safeguard human subjects, will educate students in detail about their responsibilities as clinical investigators.
Summer, 1 credit, Letter graded (A, A-, B+, etc.)

MCR 562 Data Management and Informatics for Clinical Scientists
This course provides students with computer and data management skills required to complete a research project. Questionnaire development, data processing and analysis, and issues surrounding data security are covered. Students will learn to use Excel, Access and Velos eResearch for data input and management, SPSS for data processing and analysis, and powerpoint and Word for presentations and report generation. Hands-on exercises are used to develop skills.
Fall, 3 credits, Letter graded (A, A-, B+, etc.)

MCR 566 Clinical Research Methods
This course aims to introduce trainees to the different aspects of clinical trial design, conduct, management and analysis; and to provide trainees with a basic understanding of the key elements of clinical trial design and practice. 2 credits, Fall term, Professor Leslie Hyman, PhD
2 credits, Letter graded (A, A-, B+, etc.)

MCR 567 Research in Population Health and Clinical Outcomes Research
This course provides an overview of research methods as applied to questions raised in the fields of population health and clinical science. It covers the topics of risk adjustment, cost assessment, access to, utilization and quality of care, outcomes and health status measurement, and health system performance.
Fall, 3 credits, Letter graded (A, A-, B+, etc.)

MCR 580 GCRC/SAC Scientific Review Process
Students will understand and participate in the process of scientific review of human subject research protocols submitted to the GCRC.
Fall, 1 credit, Letter graded (A, A-, B+, etc.)

MCR 601 Ethics and Professionalism in Clinical Research
Using an interative case-based format, the topics covered include the justification of human research and reasonable balance of risk versus benefits; the use of animals in biomedical research; issues of informed consent and IRB paperwork processing; the ethical challenges of clinical
research; ethical concerns associated with genetic testing and screening; research involving minors and adults of questionable capacity to consent; conflict of interest and funding of research for individuals and institutions; investigator responsibilities with regard to fulfilling government regulations; scientific fraud and whistle blowing; the scientific community and mentoring; authorship and attribution; special populations and inclusion of minorities and; emergency research-related special requirements.

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

MCR 630 Technology Transfer

Students will be exposed to concepts including disclosing inventions, protecting intellectual property, working with industry/working with university faculty, licensing, collaborative agreements, intellectual property protection and management and commercialization.

Spring, 0-6 credits, Letter graded (A, A-, B+, etc.)

MCR 650 Molecular and Laboratory Methods in Clinical Research

The aims of this course are to introduce trainees to laboratory methods relevant to clinical research with an emphasis on molecular medicine.

Fall, 2-3 credits, Letter graded (A, A-, B+, etc.)

MCR 684 Writing a Research Proposal

This course will help students develop the skills necessary to design a research proposal including framing the specific aims, evaluation of the literature, description of preliminary data and research methods, proposed biostatistical analysis and power calculations, defining eligibility criteria, and development of a safety plan, issues of recruitment including under-represented ethnic and racial groups.

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

MCR 692 Research in Progress

This course meets weekly and is attended by all trainees and mentors. Trainees present updates of their research endeavors and receive input from experienced mentors. Trainees are exposed to discussion among mentors on research design and interpretation.

Fall and Spring, 1 credit, S/U grading

MCR 693 Clinical Research Opportunities at Stony Brook University and Affiliated Institutions

The aims of this series are to familiarize trainees with the range and breadth of multidisciplinary clinical research carried out at Stony Brook and its affiliated institutions, and to provide examples of successful team approaches to study design, data analysis and ethical issues in clinical research. At each semester, a research team will be highlighted that will describe how the team came to be formed followed by a presentation about the research hypothesis, study design, data collection and analysis, and future work to follow.

Fall, Spring, and Summer, 1 credit, Letter graded (A, A-, B+, etc.)

MCR 694 Seminars in Clinical Research

Offered

Fall and Spring, 1 credit, Letter graded (A, A-, B+, etc.)

MCR 695 Defining and Developing a Career Path in Clinical and Transnational Research

Students will read and discuss chapters from the Howard Hughes Medical Institute "Making the Right Moves" online textbook and develop a career plan. Topics include how to set up your lab, networking, conflicting resolution and managing your staff.

1 credit, S/U grading

MCR 696 Presenting Research Results to Peer Audiences

Students will have reading assignments on designing and giving a great talk as well as how to write a paper suitable for publication in a peer reviewed journal. Students will have an opportunity to practice giving a talk about their research projects. Masters students will present a summary of their thesis project to date. Each student in the Masters in Clinical Research Program will present a final project as part of the Annual Research Symposium help the last day of class.

1 credit, S/U grading

MCR 698 Practicum in Teaching

The course provides hands-on experience in classroom teaching and mentoring students in the conduct of clinical research. Other activities may include preparation and supervision of class projects, exams, homework assignments, creation of voice over PowerPoint lectures, and participation in interactive Blackboard student discussions. A final report that summarizes the activities completed and provides a self-reflection on the experiences gained during the practicum is required at the conclusion of the course. Participation by advanced graduate student under the supervision of program faculty. Prerequisite: Permission of the supervising faculty. 3 credits, S/U grading May be repeated 2 times FOR credit.

3 credits, S/U grading

MCR 699 Masters Thesis

Original investigation in clinical research undertaken with the supervision of the student's Thesis Committee. 1-6 Credits, ABCF Grading

1-6 credits, Letter graded (A, A-, B+, etc.)

MST

MST 501 Selected Topics in Translation/ Research and Clinical Pathological Correlations

The learning goals of this course are for the students to gain an appreciation of examples of research by physician scientists and its clinical application. A clinical case will be presented by faculty or senior students and this case will be discussed in the light of a recent biomedical research publication. The publications are presented, analyzed and discussed by the students as a group. Topics are selected from the recent biomedical literature and can involve any
The learning goals of this course are for the students to gain an appreciation of examples of research by physician scientists and its clinical application. A clinical case will be presented by faculty or senior students and this case will be discussed in the light of a recent biomedical research publication. The publications are presented, analyzed and discussed by the students as a group. Topics are selected from the recent biomedical literature and can involve any clinical discipline, basic life science research topics as well as bioengineering topics.

0-1 credits, S/U grading