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

HBH 511: Pharmacology: Principles & Practice
Continuation of HBH 510. Covers the action of drugs acting in the cardiovascular, respiratory, gastrointestinal, renal, and endocrine systems, as well as anti-coagulant, anti-inflammatory, anti-microbial and anticancer agents. Includes the discussion of specific cases taken from the clinical practice.
4 credits, Letter graded (A, A-, B+, etc.)

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.)
May be repeated 2 times FOR credit.

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.)
May be repeated 2 times FOR credit.

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.
Prerequisites: Full-time pharmacology graduate status
Spring, 0-1 credits, S/U grading
May be repeated for credit.

HBH 599: Graduate Research in Pharmacological Sciences
Original research projects under faculty supervision.
Prerequisites: Full-time pharmacology graduate status
Summer, 0-12 credits, Letter graded (A, A-, B+, etc.)
May be repeated for credit.

HBH 601: Practicum in Teaching Pharmacology
Practical experience and instruction in the teaching of pharmacology carried out under faculty orientation and supervision.
Prerequisites: Full-time pharmacology graduate status
HBH 635: 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 668: 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 intracellular matrix. The interaction of cellular structures and components and their regulation is studied as is the organization and interaction of cells in tissues. The course includes examples of the cellular and tissues from vertebrates, invertebrates, plants, and prokaryotic systems. Prerequisite: matriculation in graduate program or permission of instructor.

Spring, 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 the SBU campus, at Cold Spring Harbor, or at the Brookhaven National Lab.

Prerequisite: Full-time pharmacology graduate status

Summer, 0-9 credits, S/U grading
May be repeated for credit.

HBH 700: Full-Time Summer Research

Full-time laboratory research projects supervised by staff members. Summer Term. Prerequisites: Full-time pharmacology graduate status.

S/U grading
May be repeated for credit.

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.

All international students must receive clearance from an International Advisor.

Spring, 1-9 credits, S/U grading
May be repeated for credit.