

# PHARMACEUTICAL SCIENCES (PHS)

## PHS 800 Bioethics (3 Credits)

**Lecture:** 3

The role of codes of professional conduct in the recognition, evaluation and resolution of conflicting ethical principles in research.

**College/School:** College Of Pharmacy/Hlth Sci.

**Department:** Dpt of Pharmaceu Sc& Env HS

## PHS 801 Biostatistics (3 Credits)

**Lecture:** 3

Application of descriptive and inferential statistical principles to data collection, collation, and analysis.

**College/School:** College Of Pharmacy/Hlth Sci.

**Department:** (R)Dept of Pharmaceutical Sci

## PHS 802 Sem/Special Topics (1 Credits)

**Lecture:** 1

Students' critical review of research papers and presentations on contemporary scientific issues. Seminars on research topics by outstanding scientists.

**College/School:** College Of Pharmacy/Hlth Sci.

**Department:** (R)Dept of Pharmaceutical Sci

## PHS 803 Seminar/Special Topics (1 Credits)

**Lecture:** 1, **Lab:** 0

Students' critical review of research papers and presentations on contemporary scientific issues. Seminars on research topics by outstanding scientists.

**College/School:** College Of Pharmacy/Hlth Sci.

**Department:** Dpt of Pharmaceu Sc& Env HS

## PHS 804 Seminar/Grantsmanship (1 Credits)

**Lecture:** 1

Student review and presentation of contemporary issues in / pharmaceutical sciences. Study of basic principles of developing a grant proposal with emphasis on goals/objectives, plan, data analysis, and budgeting.

**College/School:** College Of Pharmacy/Hlth Sci.

**Department:** Dpt of Pharmaceu Sc& Env HS

## PHS 805 Seminar/Grantsmanship (1 Credits)

**Lecture:** 1

Student review and presentation of contemporary issues in / pharmaceutical sciences. Study of basic principles of developing a grant proposal with emphasis on goals/objectives, plan, data analysis, and budgeting.

**College/School:** College Of Pharmacy/Hlth Sci.

**Department:** (R)Dept of Pharmaceutical Sci

## PHS 806 Admin and the Biomed Scien (3 Credits)

**Lecture:** 3

A course covering the elements and effective practice of management and administration, including decision-making processes, policy and program development, and selected aspects of behavior in organizations.

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**Department:** (R)Dept of Pharmaceutical Sci

## PHS 807 Exp Design/Instr/Clin Measurmt (3 Credits)

**Lecture:** 3

The study of the theoretical and practical applications of literature search, statistics, and planning/ design to research development are discussed. It prepares students to employ these tools in solving research problems.

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**Department:** Dpt of Pharmaceu Sc& Env HS

## PHS 808 Pathophysiology (3 Credits)

**Lecture:** 3

A discussion of the definition, classification, etiology, diagnosis, course, prognosis, signs, and symptoms of disease conditions.

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**Department:** Dpt of Pharmaceu Sc& Env HS

## PHS 809 Pharmacology (3 Credits)

**Lecture:** 3

Provides knowledge of all aspects of the interactions of drugs with living tissues. Mechanisms of drug action that underlie the use of drugs for purposes are discussed. (Prerequisite: PHS 808, Pathophysiology and PHS 813 Advanced Biochemistry).

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**Department:** Dpt of Pharmaceu Sc& Env HS

## PHS 810 Physical Pharmacy (3 Credits)

**Lecture:** 3

The study of proteolytic equilibria and buffer solutions, interfacial phenomena and diffusion coefficient, stability kinetics, complexation and protein binding, and polymer science.

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**Department:** Dpt of Pharmaceu Sc& Env HS

## PHS 811 Pharmacokinetics (3 Credits)

**Lecture:** 3

The discussion of processes of absorption, distribution, metabolism and excretion of drugs. This course also examines the effects of disease, drug dosage forms, and drug doses on therapeutic and toxic responses. (Prerequisite: PHS 810)

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**Department:** Dpt of Pharmaceu Sc& Env HS

## PHS 812 Advanced Biochem (3 Credits)

**Lecture:** 3

A course exploring the mechanisms of action of biological catalysts and effectors with regard to possible means of selective chemotherapeutic control of biological processes.

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**Department:** (R)Dept of Pharmaceutical Sci

## PHS 813 Advanced Organic Chem (3 Credits)

**Lecture:** 3

Focus on the structure and functions of molecules and the application of those parameters to the design and synthesis of organic substances.

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**Department:** Dpt of Pharmaceu Sc& Env HS

## PHS 814 Lab Rotation (3 Credits)

**Lecture:** 3

An introduction of on-going research projects to students in three laboratories. Students must complete this course before selecting the dissertation advisor.

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**Department:** Dpt of Pharmaceu Sc& Env HS

**PHS 815 Masters Research (1-3 Credits)****Lecture:** 3

MASTERS THESIS Supervised research and thesis preparation

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** (R)Dept of Pharmaceutical Sci**PHS 816 Masters Thesis (1-3 Credits)****Lecture:** 3**College/School:** College Of Pharmacy/Hlth Sci.**Department:** (R)Dept of Pharmaceutical Sci**PHS 900 Biosyn and Drug Metabolism (3 Credits)****Lecture:** 3

A course describing methods employed in the study/synthesis of natural compounds, biotransformation pathways, and the significance of metabolism in the design of new agents.

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** Dpt of Pharmaceu Sc& Env HS**PHS 901 Cell Biology (3 Credits)****Lecture:** 3

A course which conveys an understanding of the molecular basis of cellular compartmentalization, protein/membrane trafficking, cytoskeleton regulation, molecular motors, cell cycle, cell death, signal transduction, cell-cell and matrix-cell communications.

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** Dpt of Pharmaceu Sc& Env HS**PHS 904 Genetics and Pharmacogenomics (3 Credits)****Lecture:** 3

A course describing the biology and physiology of genes. It covers the genetic basis of diseases, drug actions/toxicity, and interindividual differences in responses to drugs.

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** Dpt of Pharmaceu Sc& Env HS**PHS 905 Advanced Medicinal Chem (3 Credits)****Lecture:** 3

A course emphasizing practical synthetic chemistry useful in the preparation of complex polyfunctional molecules.

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** (R)Dept of Pharmaceutical Sci**PHS 906 Advanced Pharmacokinetics (3 Credits)****Lecture:** 3

The application of concepts of drug kinetics to the interpretation of preclinical and clinical data. Mathematical derivations of the mass balanced relationships involving rate processes and their physiological importance are discussed. (Prerequisite: PHS 811)

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** (R)Dept of Pharmaceutical Sci**PHS 907 Advanced Pharmaceutics (3 Credits)****Lecture:** 3

Discussion of topics including Preformulation pharmaceutical excipients, solid dosage forms, dispersed systems, microencapsulated formulations, controlled release dosage forms and dermatological and biotechnological-derived products

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** (R)Dept of Pharmaceutical Sci**PHS 908 Advanced Drug Delivery Sys (3 Credits)****Lecture:** 3

The current practice, rationale and design of novel drug delivery systems, novel drug delivery systems under investigation and future drug delivery technology and systems.

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** (R)Dept of Pharmaceutical Sci**PHS 910 Endocrine Pharmacology (3 Credits)****Lecture:** 3

A discussion of the impact of drugs on the biosynthesis and mechanisms of action of hormones in regulation of cellular metabolism and expression of physiological effects. Research problems in endocrinology will be highlighted. (Prerequisites: PHS 809, Pharmacology.)

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** (R)Dept of Pharmaceutical Sci**PHS 912 Neurpharmacology (3 Credits)****Lecture:** 3

A course focusing on the etiology and development of neurological disease and how drugs, at a molecular level, affect transmission of chemical signals, the brain's signaling system and function as well as pathways of neurological disorders. (Prerequisite: PBS 809, Pharmacology.)

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** Dpt of Pharmaceu Sc& Env HS**PHS 913 Molecular Pharmacology (3 Credits)****Lecture:** 3

A course designed to study receptors, signaling, pathways, enzymes, channels, transcriptional mechanisms, and molecular modeling relevant to drug design and drug action.

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** (R)Dept of Pharmaceutical Sci**PHS 916 PhD Research I (1-3 Credits)****Lecture:** 3

Supervised research on an approved research problem suitable for the preparation of a dissertation.

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** Dpt of Pharmaceu Sc& Env HS**PHS 917 PhD Research II (1-3 Credits)****Lecture:** 3, **Lab:** 0

Supervised research on an approved research problem suitable for the preparation of a dissertation.

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** Dpt of Pharmaceu Sc& Env HS**PHS 918 PhD Dissertation I (1-9 Credits)****Lecture:** 1-9

Supervised research and dissertation preparation

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** Dpt of Pharmaceu Sc& Env HS**PHS 919 PhD Dissertation II (1-9 Credits)****Lecture:** 1-9

Supervised research and dissertation preparation

**College/School:** College Of Pharmacy/Hlth Sci.**Department:** Dpt of Pharmaceu Sc& Env HS