

PHARMACEUTICAL SCIENCES (PHS)

PHS 150 First Year Seminar (3 credits)

This first year Pharmaceutical Sciences seminar course will allow students to explore the history of medication and pharmacy (from "poisons" to drugs) and learn about pharmaceutical companies and rapid advances in the field. Through fun and engaging debates around ethical and social issues attached to a rapidly evolving field of biomedical research and healthcare, students will engage and communicate effectively through written and oral modes of expression and learn to apply principles of cooperative and efficient teamwork while learning to develop academic success strategies to become successful scientist in the Pharmaceutical Industry and beyond. Students will also attend presentations by experts from pharmaceutical industries or biomedical professions and by our own program faculty on their research programs.
Attributes: First-Year Seminar, Undergraduate

PHS 151 Science Talk Seminar (0 credits)

This course is a seminar that engages students with faculty and experts in the field of Pharmaceutical Sciences by allowing the students to research the field of research of their faculty or scientist match and give a detailed presentation on the subject and person. The result will be seminar presentations driven by students and will introduce the importance of networking in the field of Pharmaceutical Sciences which is build to advance quickly through these important communications amongst scientists.

Attributes: Undergraduate

PHS 203 Pharm Sciences Orientation II (1 credit)

"The course introduces students to the different steps in the new drug development process and familiarizes them with FDA regulations pertaining to each of these steps."

PHS 303 Pharma & Biopharmaceutics I (3 credits)

Provides the physicochemical and pharmaceutical principles for understanding the development, behavior, preparation, and stability of pharmaceutical dosage forms and drug delivery systems.

PHS 303L Pharmaceutics Laboratory (1 credit)

PHS 304 Intro Drug Discovery & Dev (3 credits)

This course will allow students to gain insight into the process of drug discovery and development. By interacting with different experts in the field of drug discovery and development, students will learn about the steps to drug discovery including new target identification, selection and validation, screening of potential candidates, use virtual reality technology (VR) to experience receptor-ligand interactions in 3 dimensional space, understanding the formulation process, packaging and delivery of new drugs and finally being exposed to the important regulatory aspects of the drug discovery process and how it applies to taking novel discoveries to clinic and patients.

Attributes: Undergraduate

PHS 306 Research Techniques in PHS (3 credits)

The course will familiarize students with research techniques including chromatography, dissolution, electrophoresis, protein assays, and cell culture as it applies to the field of Pharmaceutical Sciences

Attributes: Undergraduate

PHS 309 Pharm-Biopharmaceutics II (3 credits)

Study of the fundamental principles of rate processes and their application to predicting and computing the rate of drug dissolution, absorption, distribution, metabolism, elimination, and pharmacological action.

Attributes: Undergraduate

PHS 317 Pharm-Biopharmaceutics II (4 credits)

Study of the fundamental principles of rate processes and their application to predicting and computing the rate of drug dissolution, absorption, distribution, metabolism, elimination, and pharmacological action.

Attributes: Undergraduate

PHS 391 Pharm Sciences Seminar I (1 credit)

PHS 400 Cosmetic Science (2 credits)

PHS 400L Cosmetics Laboratory (2 credits)

PHS 402 Controlled-Release Dosage Form (2 credits)

PHS 404 Pharm Sciences Seminar II (1 credit)

PHS 414 Advanced Pharma Analysis (1 credit)

This course explores in depth of all major analytical instruments utilized in Pharmaceutical Industry, especially those that can be utilized for specialized and precise characterization during drug discovery and development. This course will help prepare students to be trained on these instruments in the lab.

Attributes: Undergraduate

PHS 414L Advanced Pharma Analysis Lab (2 credits)

This course provides hands on training on all major analytical instruments in the laboratory utilized in pharmaceutical industry, especially those that provide specialized and precise characterization during drug discovery and development processes.

Attributes: Undergraduate

PHS 450 Manufacturing Pharmacy (2 credits)

PHS 450L Manufacturing Pharmacy Lab (1 credit)

PHS 495 Analysis of Current Literature (1-3 credits)

PHS 702 Controlled-Release Dosage Form (2 credits)

PHS 703 Pharma & Biopharmaceutics I (3 credits)

Provides the physicochemical and pharmaceutical principles for understanding the development, behavior, preparation, and stability of pharmaceutical dosage forms and drug delivery systems.

Restrictions: Enrollment is limited to Doctoral or Graduate level students.

PHS 703L Pharmaceutics Laboratory (1 credit)

PHS 704 Intro Drug Discovery & Dev (3 credits)

This course will allow students to gain insight into the process of drug discovery and development. By interacting with different experts in the field of drug discovery and development, students will learn about the steps to drug discovery including new target identification, selection and validation, screening of potential candidates, use virtual reality technology (VR) to experience receptor-ligand interactions in 3 dimensional space, understanding the formulation process, packaging and delivery of new drugs and finally being exposed to the important regulatory aspects of the drug discovery process and how it applies to taking novel discoveries to clinic and patients.

Attributes: Doctoral

PHS 709 Pharm-Biopharmaceutics II (3 credits)

Study of the fundamental principles of rate processes and their application to predicting and computing the rate of drug dissolution, absorption, distribution, metabolism, elimination, and pharmacological action.

Attributes: Doctoral

PHS 714 Advanced Pharma Analysis (1 credit)

This course explores in depth of all major analytical instruments utilized in Pharmaceutical Industry, especially those that can be utilized for specialized and precise characterization during drug discovery and development in the Pharmaceutical Industry. This course is the pre-lab that will help prepare students to be trained on these instruments in the lab.

Restrictions: Enrollment is limited to Doctoral or Graduate level students.

Attributes: Doctoral

PHS 714L Advanced Pharma Analysis Lab (2 credits)

This course provides hands on training on all major analytical instruments in the laboratory utilized in pharmaceutical industry, especially those that provide specialized and precise characterization during drug discovery and development processes. This course is a lab.

Attributes: Doctoral

PHS 717 Pharm-Biopharmaceutics II (4 credits)

Study of the fundamental principles of rate processes and their application to predicting and computing the rate of drug dissolution, absorption, distribution, metabolism, elimination, and pharmacological action.

PHS 750 Advanced Pharmaceutics (4 credits)

PHS 751 Advanced Pharmaceutics (3 credits)

This course presents the areas of pharmaceutical sciences and drug delivery at an advanced level. The topics include physical properties of drugs, ionic equilibria, solubility and related phenomena, drug diffusion and permeability, drug stability, interfacial phenomena, colloids, micromeritics, drug dissolution, and biomaterials.

PHS 760 Reg Issues in Pharma (2 credits)

This course covers in depth the various steps in the process of filing drug approval applications.

Restrictions: Enrollment is limited to Graduate level students.

PHS 761 Pharmaceutical Product Dev (3 credits)

This course focuses on the process of drug development from laboratory to scale-up.

Prerequisites: PHS 703

Restrictions: Enrollment is limited to Doctoral or Graduate level students.

PHS 762 Pre-formulation and Phys Pharm (3 credits)

This is an introductory course in the study of pharmaceutical materials for their physico-chemical properties as they pertain to the development of formulations.

Prerequisites: PHS 703

PHS 763 Res Proj in Drug Dev & Ind Pha (3 credits)

An advanced level research project in a selected area of drug delivery systems.

Prerequisites: PHS 761

PHS 799 Master's Research (1-10 credits)

PHS 811 Drug Diffusion and Controlled (2 credits)

PHS 813 Design of Experiments (2 credits)

PHS 851 Advanced Pharmaceutics (3 credits)

This course presents the areas of pharmaceutical sciences and drug delivery at an advanced level. The topics include physical properties of drugs, ionic equilibria, solubility and related phenomena, drug diffusion and permeability, drug stability, interfacial phenomena, colloids, micromeritics, drug dissolution, and biomaterials.

Attributes: Doctoral

PHS 860 Reg Issues in Pharma (2 credits)

This course covers in depth the various steps in the process of filing drug approval applications.

Restrictions: Enrollment is limited to Doctoral level students.

PHS 875 Drug Dynamics (3 credits)

PHS 880 Pharmaceutical Polymers (3 credits)

PHS 890 Pharmaceutics Seminar (1 credit)

PHS 895 Analysis of Current Literature (2 credits)

PHS 897 Research in Pharmaceutics (3 credits)

PHS 899 Doctoral Research (10 credits)