PHA - PHARMACY

**PHA 3030 Pharmacy Calculations and Descriptive Biostatistics Cr. 1**
Basics of pharmacy weights and measures; conversions between English, metric, and avoirdupois systems. Basic concepts in biostatistics: means, medians, modes. Offered Fall.
**Restriction(s):** Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

**PHA 4105 Pathophysiology 1 Cr. 3**
Advanced pathophysioligic concepts affecting the adult human using a research-based, system-focused approach, including etiology, pathogenesis and clinical manifestations of commonly found/seen altered health states. Offered Winter.
**Restriction(s):** Enrollment limited to students in the Doctor of Pharmacy program.

**PHA 4125 Drug Literature Evaluation and Foundations of Research Cr. 3**
Critical evaluation of the medical literature and provision of foundational research skills. Offered Fall.
**Restriction(s):** Enrollment limited to students in the Doctor of Pharmacy program.

**PHA 4205 Pathophysiology II Cr. 2**
Advanced pathophysioligic concepts affecting the adult human using a research-based, system-focused approach, including etiology, pathogenesis and clinical manifestations of commonly found/seen altered health states. Offered Winter.
**Prerequisite:** PHA 4105
**Restriction(s):** Enrollment limited to students in the Doctor of Pharmacy program.

**PHA 4210 Principles of Pharmacotherapy III Cr. 4-5**
Pharmacotherapeutic principles in infectious diseases and respiratory diseases. Offered Winter.
**Prerequisites:** (May be taken concurrently: [PHA 4215 with a minimum grade of C])
**Corequisite:** PHA 4215
**Restriction(s):** Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

**PHA 4225 Principles of Pharmacotherapy I: Respiratory, Gastroenterology, Allergy, Ophthalmology Cr. 4**
Principles of medicinal chemistry, pharmacology, and therapeutics as applied to the treatment of gastroenterologic, pulmonary, ophthalmologic, and allergic disorders, and basic self-care. Offered Winter.
**Prerequisite:** PHA 4105
**Restriction(s):** Enrollment limited to students in the Doctor of Pharmacy program.
**Course Material Fees:** $70

**PHA 4235 Pharmacotherapeutic Problem Solving I: Respiratory, Gastroenterology, Allergy, Ophthalmology Cr. 2**
Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics of respiratory, gastroenterologic, allergic, and ophthalmologic disorders, and basic self-care. Offered Winter.
**Restriction(s):** Enrollment limited to students in the Doctor of Pharmacy program.
**Course Material Fees:** $75

**PHA 4260 Principles of Pharmacotherapy IV Cr. 4-5**
Pharmacotherapeutic principles of cardiovascular diseases. Offered Fall.
**Prerequisites:** ([PHA 4010 with a minimum grade of C]) AND ([PHA 4110 with a minimum grade of C])
**Corequisite:** PHA 4215
**Restriction(s):** Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

**PHA 4395 Research Scholars: Research Development Cr. 2**
Development of basic foundations of research practices for students pursuing the Research Scholars path. Offered Spring/Summer.
**Restriction(s):** Enrollment limited to students in the Doctor of Pharmacy program.

**PHA 5110 Pharmacogenomics Cr. 2**
Principles and applications of human genetics and genomics in drug therapy optimization, patient care, and counseling. Offered Spring/Summer.
**Restriction(s):** Enrollment limited to students with a class of PharmD Yr 2 or PharmD Yr 3; enrollment is limited to Professional level students.

**PHA 5115 Principles of Pharmacotherapy II: Cardiology, Nephrology Cr. 5**
Principles of medicinal chemistry, pharmacology, and therapeutics as applied to the treatment of cardiovascular renal disease. Offered Fall.
**Restriction(s):** Enrollment limited to students in the Doctor of Pharmacy program.
**Equivalent:** PHA 5165

**PHA 5125 Principles of Pharmacotherapy III: Endocrinology, Gynecology, Urology Cr. 4**
Principles of medicinal chemistry, pharmacology, and therapeutics as applied to the treatment of endocrinologic, gynecologic, and urologic disorders. Offered Fall.
**Restriction(s):** Enrollment limited to students in the Doctor of Pharmacy program.

**PHA 5135 Pharmacotherapeutic Problem Solving II: Nephrology, Cardiology, Endocrinology, Gynecology, Urology Cr. 2**
Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics of nephrologic, cardiologic, endocrinologic, and gynecologic conditions.
**Restriction(s):** Enrollment limited to students in the Doctor of Pharmacy program.

**PHA 5155 Principles of Pharmacotherapy V Cr. 4-5**
Pharmacotherapeutic principles in neurology, psychiatry, and drug abuse. Offered Fall.
**Corequisite:** PHA 5175
**Restriction(s):** Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

**PHA 5165 Principles of Pharmacotherapy VI Cr. 4-5**
Pharmacotherapeutic principles of endocrine, renal, and gastrointestinal diseases. Offered Fall.
**Corequisite:** PHA 5175
**Restriction(s):** Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
PHA 5175 Pharmacotherapeutic Problem Solving III Cr. 2
Third in a four-semester sequence focusing on the learning of pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics within the context of patient-based problems. Offered Fall.
Corequisite: PHA 5155, PHA 5165
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PHA 5195 Research Scholars: Research Conduct Elective Cr. 1-4
Conducting research project for students pursuing the Research Scholars path. Offered Every Term.
Prerequisites: (PHA 4395)
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Repeatable for 4 Credits

PHA 5215 Principles of Pharmacotherapy IV: Infectious Diseases Cr. 4
The chemistry, pharmacology, and toxicology of anti-infective agents and the pathophysiology, microbiology, and therapeutics of infectious diseases. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Equivalent: PHA 4210

PHA 5225 Principles of Pharmacotherapy V: Neurology, Psychiatry Cr. 4
Medicinal chemistry, pharmacology and therapeutics of neurologic and psychiatric disorders. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Equivalent: PHA 5155

PHA 5235 Pharmacotherapeutic Problem Solving III: Infectious Diseases, Neurology, Psychiatry Cr. 2
Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics of infectious, neurologic, and psychiatric diseases. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Course Material Fees: $75
Equivalent: PHA 5175

PHA 5270 Principles of Pharmacotherapy VII Cr. 4-5
Pharmacotherapeutic principles in oncology, toxicology, dermatology, and drug-induced diseases. Offered Winter.
Corequisite: PHA 5275
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PHA 5275 Pharmacotherapeutic Problem Solving IV Cr. 2
Fourth in a four-semester sequence focusing on the learning of pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics within the context of patient-based problems. Offered Winter.
Corequisite: PHA 5270, PHA 5280
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PHA 5280 Principles of Pharmacotherapy VIII Cr. 2-3
Pharmacotherapeutic principles of special populations, men’s and women’s health, patient problem solving. Offered Winter.
Corequisite: PHA 5275
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PHA 6125 Principles of Pharmacotherapy VI: Oncology, Advanced Immunology Cr. 3
Principles of medicinal chemistry, pharmacology, and therapeutics applied to the treatment of oncologic and immunologic disorders Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Equivalent: PHA 5270

PHA 6135 Pharmacotherapeutic Problem Solving IV: Oncology and Advanced Pharmacotherapeutics Cr. 3
Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics of neoplastic disorders and advanced pharmacotherapeutics. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Equivalent: PHA 5275

PHA 6235 Pharmacotherapeutic Problem Solving V: Drug Induced Diseases Cr. 2
Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry, and pharmacotherapeutics of drug-induced diseases. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $348.67
Repeatable for 998.99 Credits