PHM(PH)-PHARMACY PRACTICE

GMS 6951 Teaching Biomedical Science 2 Credits
Grading Scheme: Letter Grade
Acquire the skills necessary for creating and modifying courses through a combination of self-awareness activities and information drawn from the field of curriculum that informs teaching across content areas. Learning skills to write a teaching philosophy, draft components of their own course syllabus, add these components to their portfolio. Learning platform-online,Canvas

GMS 6952 Curricular Models for Biomedical Science 3 Credits
Grading Scheme: Letter Grade
Students are introduced to various models of teaching and instructional strategies. Models of teaching give instructors the tools they need to build strong learning environments and interactions that accelerate learning. Models provide a blueprint, structure, direction for teaching. Students will learn to develop curriculum, analyze structure and identify the teaching models.

GMS 6953 Art and Science of Mentoring 1 Credit
Grading Scheme: Letter Grade
Learn to mentor other professionals who are in early stages of career development. Develop knowledge and skills through provision of didactic information and experiential learning activities. Complete an individual development plan, identify ethical dilemmas in mentoring and describe strategies to prevent them, and articulate their own mentoring philosophy.

GMS 6954 Assessing Effectiveness of Biomedical Science Teaching and Curricula 3 Credits
Grading Scheme: Letter Grade
Overview of the models of evaluation within contrasting paragims as it relates to biomedical science education. Topics address concerns while adhering to the professional, scholarly and ethical roles the evaluator must uphold. Develop rubrics, select assessments, use peer observations for assessment of teaching methods, products and outcomes in clinics/laboratories, learning environments.

PHA 6051 Principles of Community Engagement Research for Health Equity 2 Credits
Grading Scheme: Letter Grade
An introduction to Community engagement research (CEnR) to address health disparities. Students will explore the concept of community engagement to identify appropriate partners for, and conducting CEnR through self-learning, active learning, and real life experiences in developing a research objective, study design, recruitment, instrument design, data collection, analysis, and dissemination.

PHA 6134 Foundations in Precision Medicine: Genomic Technologies 1 Credit
Grading Scheme: Letter Grade
Focuses on current developments and emerging trends in genomic testing, clinical and research applications of emerging genomic tests, role of computing and data science, and applications of bioinformatics in genomics.
Prerequisite: Students must have basic knowledge of genetics and molecular biology.

PHA 6135 Clinical Applications of Precision Medicine: Pharmacogenomics 2 Credits
Grading Scheme: Letter Grade
Focuses on how pharmacogenomic and genomic data can be used in patient care. Students can opt to participate in personal genotyping and use their own genetic data for class assignments or work with a de-identified genotype dataset.
Prerequisite: GMS 5224 - Foundations in Precision Medicine: Medical Molecular Genetics & PHA 6134 - Foundations in Precision Medicine: Genomic Technologies & PHC 6598 - Foundations in Precision Medicine: Genetic Epidemiology.

PHA 6136 Clinical Applications of Precision Medicine: Oncology 2 Credits
Grading Scheme: Letter Grade
Provides an overview of the relevant genomic and somatic mutations within each main oncology tumor subtype and explore ways to use genomic and somatic mutation information to improve clinical and therapeutic decision making.
Prerequisite: GMS 5224 - Foundations in Precision Medicine: Medical Molecular Genetics & PHA 6134 - Foundations in Precision Medicine: Genomic Technologies & PHC 6598 - Foundations in Precision Medicine: Genetic Epidemiology.

PHA 6235 Advanced Pharmaceutical Law 2 Credits
Grading Scheme: Letter Grade
Study of the federal Food, Drug, and Cosmetics Act and various state and local laws applicable to drug manufacturers, wholesalers, distributors, and drug-related products, including analyses of recent court decisions.

PHA 6427 Pharmacogenomics of Drug Metabolism 2 Credits
Grading Scheme: Letter Grade
Examination of factors that affect drug disposition and response including genetics, as well as, additional factors such as environment, diet, age, and concurrent drug therapy and health status. Students will acquire an understanding of pharmacogenetics/pharmacogenomics in the context of variability in drug disposition and the application of pharmacogenomics to drug development and drug treatment.

PHA 6447 Pharmacogenomics 3 Credits
Grading Scheme: Letter Grade
Contemporary experimental approaches in pharmacogenomics research design.
Prerequisite: biochemistry, PHA 6425, or consent of instructor.

PHA 6476 Advanced Combinatorial Chemistry in Drug Discovery 3 Credits
Grading Scheme: Letter Grade
Designed to introduce students combinatorial chemical synthesis to fully understand the functions and mechanism of action of biopolymers for medical purpose.
Prerequisite: Students are expected to have previous knowledge on general chemistry and organic synthesis.

PHA 6613 Clinical Applications Precision Medicine: Precision Health 3 Credits
Grading Scheme: Letter Grade
Clinical Applications Precision Medicine: Precision Health
Prerequisite: GMS 5224 - Foundations in Precision Medicine: Medical Molecular Genetics & PHA 6134 - Foundations in Precision Medicine: Genomic Technologies & PHC 6598 - Foundations in Precision Medicine: Genetic Epidemiology.
PHM(PH)-Pharmacy Practice

**PHA 6630 Medication Therapy Management: A Hematologic Focus**
**3 Credits**

*Grading Scheme:* Letter Grade

Introducing the student to principles of medication therapy management in patients with hematologic disorders.

*Prerequisite:* The student must have successfully completed Foundations of MTM I (PHA 6631) and Foundations of MTM II (PHA 6632).

**PHA 6631 Foundations of Medication Therapy Management I**
**3 Credits**

*Grading Scheme:* Letter Grade

Core elements of medication therapy management (MTM), physical assessment skills, communication techniques, and methods of literature evaluation needed for successful provision of MTM services.

*Prerequisite:* All students have a prior pharmacy degree.

**PHA 6632 Foundations of Medication Therapy Management II**
**3 Credits**

*Grading Scheme:* Letter Grade

Business elements of medication therapy management (MTM), MTM practice models, documentation systems, business plan development, and basic financial principles needed for the successful provision of MTM.

*Prerequisite:* All students have a prior pharmacy degree.

**PHA 6633 Medication Therapy Management: A Cardiovascular Focus**
**3 Credits**

*Grading Scheme:* Letter Grade

Principles of medication therapy management in patients with cardiovascular disorders.

*Prerequisite:* PHA 6631 and PHA 6632

**PHA 6634 Medication Therapy Management: An Endocrine Focus**
**3 Credits**

*Grading Scheme:* Letter Grade

Principles of medication therapy management in patients with endocrine disorders.

*Prerequisite:* PHA 6631 and PHA 6632

**PHA 6635 Medication Therapy Management: A Renal Focus**
**3 Credits**

*Grading Scheme:* Letter Grade

Principles of medication therapy management in patients with renal disorders.

*Prerequisite:* PHA 6631 and PHA 6632

**PHA 6636 Medication Therapy Management: A Gastrointestinal Focus**
**3 Credits**

*Grading Scheme:* Letter Grade

Principles of medication therapy management in patients with gastrointestinal disorders.

*Prerequisite:* Foundations of MTM I and Foundations of MTM II

**PHA 6637 Medication Therapy Management: A Psychiatric Focus**
**3 Credits**

*Grading Scheme:* Letter Grade

Introducing the student to principles of medication therapy management in patients with psychiatric disorders.

*Prerequisite:* The student must have successfully completed Foundations of MTM I (PHA 6631) and Foundations of MTM II (PHA 6632)

**PHA 6638 Medication Therapy Management: A Neurologic Focus**
**3 Credits**

*Grading Scheme:* Letter Grade

Introducing the student to principles of medication therapy management in patients with neurologic disorders.

*Prerequisite:* The student must have successfully completed Foundations of MTM I (PHA 6631) and Foundations of MTM II (PHA 6632)

**PHA 6639 Medication Therapy Management: A Respiratory Focus**
**3 Credits**

*Grading Scheme:* Letter Grade

Introducing the student to principles of medication therapy management in patients with respiratory disorders.

*Prerequisite:* The student must have successfully completed Foundations of MTM I (PHA 6631) and Foundations of MTM II (PHA 6632).

**PHA 6746 Patient Education and Communication in the Era of Precision Medicine**
**1 Credit**

*Grading Scheme:* Letter Grade

Focuses on emerging issues in patient education and communication in precision medicine.


**PHA 6910 Supervised Research**
**1-5 Credits, Max 5 Credits**

*Grading Scheme:* S/U

Supervised Research

**PHA 6935 Selected Topics in Pharmacy**
**1-4 Credits, Max 12 Credits**

*Grading Scheme:* Letter Grade

Open to all departments in the College of Pharmacy.

**PHA 6936 Advanced Topics in Pharmaceutical Sciences**
**1-2 Credits, Max 4 Credits**

*Grading Scheme:* S/U

Open to all departments in the College of Pharmacy.

**PHA 6940 Supervised Teaching**
**1-5 Credits, Max 5 Credits**

*Grading Scheme:* S/U

Supervised Teaching

**PHA 6950 Precision Medicine Conference**
**1 Credit**

*Grading Scheme:* Letter Grade

Attendance or viewing of proceedings at this conference develops knowledge related to the latest strategies and technologies for bringing genomic medicine and pharmacogenomics into a clinic. Provides opportunity to learn from clinicians, researchers and thought leaders from medicine and pharmacy on implementing genomic medicine and pharmacogenomics in clinic settings.


**PHA 6971 Research for Master’s Thesis**
**1-15 Credits**

*Grading Scheme:* S/U

Research for Master’s Thesis
PHA 7979 Advanced Research 1-12 Credits
Grading Scheme: S/U
Research for doctoral students before admission to candidacy. Designed for students with a master’s degree in the field of study or for students who have been accepted for a doctoral program. Not appropriate for students who have been admitted to candidacy.

PHA 7980 Research for Doctoral Dissertation 1-15 Credits
Grading Scheme: S/U
Research for Doctoral Dissertation