# PHM(PH)-PHARM OUTCOMES & POL

**PHA 5270 Health and Patient Safety 3 Credits**  
**Grading Scheme:** Letter Grade  
Provides an overview of applicable federal, state, local, and health and safety laws relevant to the practice of health care risk management and patient safety.

**PHA 5271 Health Care Risk Management 3 Credits**  
**Grading Scheme:** Letter Grade  
Introduction to the concept of risk management in health care settings, describing its development, role of the health care risk manager, and connection between risk management, quality improvement and corporate compliance.

**PHA 5272 Risk Management, Liability and Compliance 3 Credits**  
**Grading Scheme:** Letter Grade  
Applicable standards of health care risk management, including the principles of malpractice and insurance, the conduct of malpractice litigation, and the settlement of malpractice claims.

**PHA 6206 Introduction to Pharmaceutical Microeconomics 3 Credits**  
**Grading Scheme:** Letter Grade  
Introducing students to the fundamentals of microeconomic theory from the perspective of pharmaceutical markets. This course will cover the main elements of microeconomic theory, focusing on the behavior of individuals and firms and the interaction among these agents in both competitive and non-competitive pharmaceutical markets. The class will focus on concepts such as consumer choice, opportunity costs, supply and demand, elasticity, competition, monopoly and oligopoly and the application of these concepts to the markets for pharmaceutical products and services.

**PHA 6227 Institutional Pharmacy Leadership I 3 Credits**  
**Grading Scheme:** Letter Grade  
Addresses leadership topics relevant to institutional pharmacy with an emphasis on case study analysis. Topics include leading people, leading the pharmacy enterprise, leading change and innovation, providing leadership in safety and quality, and information technology and systems.

**PHA 6228 Institutional Pharmacy Leadership II 3 Credits**  
**Grading Scheme:** Letter Grade  
Addresses leadership topics relevant to institutional pharmacy with emphasis on case-study analysis. Topics include leadership in effective financial management, building presence with executive leadership, leading for results, and gaining leadership skills through self-development.

**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 6250 Patient Responsibility in Health Care 3 Credits**  
**Grading Scheme:** Letter Grade  
This course examines the ways in which patients can accept responsibility for promoting good outcomes of the therapeutic modalities that the health care professionals and institutions provide. The focus is on how patients can foster a productive relationship with health care providers and institutions, and how they can participate actively in efforts to prevent failures of quality in the provision of health care.

**PHA 6254 Structure, Process and Outcomes of Regulation II 2 Credits**  
**Grading Scheme:** Letter Grade  
A continuation course that emphasizes the role of the legislative, executive and judicial branches of state and federal government in the establishment of standards for pharmacy practice and drug distribution. It also places special emphasis on the administrative rule making process. Additionally, the course focuses on the purpose of government agencies, the approach to standards setting by each type of agency, and the effects of regulation on public health.

**PHA 6264 Pharmacoepidemiology and Health Technology Assessment 3 Credits**  
**Grading Scheme:** Letter Grade  
Introduction to major analytical techniques used in economic evaluation of medical technologies.  
**Prerequisite:** STA 6200 or STA 6126 or equivalent, HSC 6506 or 5103 or equivalent, or consent of instructor.

**PHA 6265 Introduction to Pharmaceutical Outcomes and Policy I 3 Credits**  
**Grading Scheme:** Letter Grade  
Introduces students to the breadth of research issues in Pharmaceutical Outcomes and Policy, including legal, educational, regulatory and financial aspects of medication use; patient and provider behavior in medication use; the structure of pharmaceutical supply chain; and patient safety and risk management.

**PHA 6266 Introduction to Pharmaceutical Outcomes and Policy II 2 Credits**  
**Grading Scheme:** Letter Grade  
Introduces drug distribution systems, pharmacoepidemiology, economic evaluation of drugs, and databases regarding medication use.

**PHA 6268 Pharmacoepidemiology and Patient Safety 3 Credits**  
**Grading Scheme:** Letter Grade  
Exposure to research methodologies in pharmacoepidemiology relevant to drug safety, drug effectiveness, and outcome assessment. Emphasizing observational study designs, including patient follow-up studies, case-control and cohort designs.

**PHA 6269 Pharmaceutical Products and Public Policy 3 Credits**  
**Grading Scheme:** Letter Grade  
Relationships among pharmaceutical manufacturers, institutions, managed care, professions, and the public. The government's role in assuring high quality pharmaceutical products and services. Quality controls managed by the public and by industry. Congressional oversight of medication development, production, and use.

**PHA 6273 Structure, Process and Outcomes of Regulation I 2 Credits**  
**Grading Scheme:** Letter Grade  
Emphasizes the role of the legislative, executive and judicial branches of state and federal government in the establishment of standards for pharmacy practice and drug distribution. It also places special emphasis on the administrative rule making process. Additionally, the course focuses on the purpose of government agencies, the approach to standards setting by each type of agency, and the effects of regulation on public health.
PHM 6274 Federal Regulations of Drugs and Pharmacy 3 Credits
Grading Scheme: Letter Grade
The Federal Food, Drug and Cosmetic Act, regulations promulgated by the Food and Drug Administration, and judicial interpretations of controversies in this area. Federal regulation of drug research, new drug approval, drug marketing and drug distribution. The balance sought by the FDA and other federal agencies in the protection of the public from unsafe and/or ineffective drugs, without unnecessarily restricting access to therapies.

PHM 6275 Federal Regulations of Controlled Substances 3 Credits
Grading Scheme: Letter Grade
The Federal Controlled Substances Act, regulations promulgated by the Drug Enforcement Administration, and judicial interpretations of controversies in this area. The "closed-system" of controlled substance distribution created under federal law. Federal restrictions on the manufacture, distribution and use of drugs that are subject to abuse. Treatment programs for the disease of addiction.

PHM 6276 Pharmacy Benefit Design & Management 3 Credits
Grading Scheme: Letter Grade
An overview of managed care pharmacy, focusing on the structure and function of the prescription benefits management within health plans and PBMs and the role of pharmacists with a managed care pharmacy department.

PHM 6277 Ethics in Drug Development Production and Use 3 Credits
Grading Scheme: Letter Grade
Governments, health professionals, patients and research institutions look to the field of ethics for guidance on how decisions should be made in the treatment of patients and in research. A process for ethical decision making. Basic theories and principles of biomedical ethics, with emphasis on utilitarianism. Application of principles to subjects such as informed consent, abortion/contraception, physician-assisted dying, experimentation with human subjects, and confidentiality.

PHM 6278 State Regulation of Drugs and Pharmacy 3 Credits
Grading Scheme: Letter Grade

PHM 6279 Pharmaceutical Outcomes and Policy Seminar 1 Credit, Max 3 Credits
Grading Scheme: S/U
Development, reasons for, and possible approaches to resolving a contemporary issue in health outcomes or policy. Students analyze particular aspects of the issue and present results for class discussion.

PHM 6280 Medicare and Medicaid 3 Credits
Grading Scheme: Letter Grade
Costs and financing of Medicare and Medicaid. Eligibility, program administration, benefits, and relationships between state and federal agencies.

PHM 6281 Practices and Procedures of Administrative Agencies 3 Credits
Grading Scheme: Letter Grade
Organization, responsibilities, administrative practices, procedures, and politics of FDA and CMS.

PHM 6283 Commercial Applications of Pharmacoeconomics 3 Credits
Grading Scheme: Letter Grade
Fundamental methods of pharmacoeconomic analysis. Focuses on the theory, methods, and application of technology assessment in health care. Applications will be drawn from a variety of health care settings, including pharmaceuticals.

PHM 6286 Pharmaceutical Microeconomics 3 Credits
Grading Scheme: Letter Grade
Introduction to basic microeconomic principles as they are applied to pharmaceuticals. Elucidation of the economic tools and the fundamental concepts of choice, opportunity costs, supply and demand, elasticity, utility maximizing behavior, competition, monopolies and oligopolies in the healthcare market.

PHM 6287 Pharmaceutical Health Economics 3 Credits
Grading Scheme: Letter Grade
Examines economic principles and issues of health care and pharmaceuticals in the United States. Topics examined include health care structure and financing, market failures, human capital, and producer and consumer behavior.

PHM 6288 Critical Review of Research Methods 3 Credits
Grading Scheme: Letter Grade
Research design and methodology utilized in clinical research with a focus on understanding each component of the research process, including how to formulate a research question, develop hypotheses, analyze instruments, collect relevant data, data analysis, and critically interpret the results, while preserving the ethical guidelines for human subject research.

PHM 6289 Regulating Clinical Research 3 Credits
Grading Scheme: Letter Grade
Introduces history and current regulatory environment of human subjects research as a background to regulatory frameworks and contemporary issues structuring the development of clinical medical research, including federal regulations of Departments of Health and Human Services and those of the Food and Drug Administration, as well as non-federal sources of regulation.

PHM 6290 Pharmaceutical Fraud and Abuse 3 Credits
Grading Scheme: Letter Grade
Understanding of federal fraud, waste and abuse laws and regulations related to health care. Fraud, waste, and abuse laws and regulations are the focus of many different health care laws and regulations with the number growing each year. This course will introduce students to these laws and regulations and allow them to distinguish among the different regulations. The course will also focus on areas where health care entities can prevent violations of fraud, waste, and abuse.

Prerequisite: None.

PHM 6291 Pharmaceutical Health Care Systems 3 Credits
Grading Scheme: Letter Grade
Emphasizes designing a prescription benefit program meeting the needs of a reformed health care system; negotiating the health care system as the advocate for patients who are from special populations; and presenting to lawmakers a compelling argument for reform.

PHM 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.

PHM 6717 Measurement in Pharmacy Administration Research 3 Credits
Grading Scheme: Letter Grade
Examination of some of the techniques adapted from the social sciences for research in the field of pharmacy administration.

Prerequisite: STA 6217 or equivalent.
PHA 6793 Evidentiary Basis of Pharmaceutical Use 3 Credits
Grading Scheme: Letter Grade
The overall goal of the course is to familiarize students with methods and tools to evaluate the medical literature. Students will be exposed to an array of study designs and analytic methods. In clinical cases, students evaluate strengths and weaknesses of the published literature and use evidence to support their recommendations about the appropriate use of pharmaceuticals.

PHA 6796 Study Design in Pharmaceutical Outcomes & Policy Research 3 Credits
Grading Scheme: Letter Grade
Methods for evaluation and improvement of drug therapy outcomes including critical appraisal of drug and clinical service literature with special focus on patient and medication safety.

PHA 6798 The Use and Abuse of Statistics in Drug Regulation 3 Credits
Grading Scheme: Letter Grade
Explores statistical methods used to make inferences about data obtained in clinical trials. This course demonstrates how statistics are used to rule out the possibility that the conclusions of a research project are the result of chance. Potential problems in the use of statistics are reviewed. The course examines published research articles reporting results that are not supported by the statistical tools used in the described study. The student is taught how to engage in critical analysis of the statistics in a proposed scientific study.

PHA 6799 Patient Safety Program Evaluation 3 Credits
Grading Scheme: Letter Grade
Explores the methodologies through which patient safety data are collected and evaluated. The use of existing databases on patient safety will be examined. The course includes design of a patient safety study, the evaluation of data, and the use of results from program evaluation to implement improvements to ongoing programs.

PHA 6805 Applied Data Interpretation and Reporting of Findings in Pharmacy 3 Credits
Grading Scheme: Letter Grade
Develops research skills including generation of questions; hypotheses testing; and testing, interpretation, and reporting of findings.

PHA 6806 Pharmacoeconomic Modeling 3 Credits
Grading Scheme: Letter Grade
Providing an introduction to methods and techniques for conducting pharmacoeconomic studies, including classifying disease, identifying pharmaceutical products from prescription claims, risk adjustment, practical decision analysis, Markov modeling, and indirect treatment comparisons.
Prerequisite: PHA 6283

PHA 6809 Prevention of Pharmaceutical Crimes 3 Credits
Grading Scheme: Letter Grade
Introduces the student to the current legal environment associated with criminal conduct related to the use of pharmaceutical products and strategies for reducing the risk that pharmaceutical products will be used to intentionally harm a person as the instrumentality of a criminal act, including actions by a health care provider that can be considered criminal and outside the practice of health care.

PHA 6811 Introduction to Pharmacoepidemiology 3 Credits
Grading Scheme: Letter Grade
Explores basic epidemiology principles with a particular focus on how they are applied to pharmaceuticals. Provides a basic understanding of causation, measure disease occurrence and causal effect, biases in study design, data analysis and use of epidemiology in clinical settings.

PHA 6860 Research Ethics 3 Credits
Grading Scheme: Letter Grade
Introduce the student to the ethical issues that must be addressed in clinical research with human subjects. It will include an introduction to the primary theories and methods of ethical reflection and analysis, the conceptual distinctions and continuities between ethical and legal / policy questions, and illustrate the background to current issues with selected cases from the history of human subjects research.

PHA 6899 Advanced OB/GYN and Pediatric Pharmacoepidemiology 3 Credits
Grading Scheme: Letter Grade
Introducing the student to current drug safety issues in OB/GYN and pediatric drug treatment practice. The discussion will focus on methodological consideration specific to observational data research in these special populations, including but not limited to assessing drug exposure, small exposure populations, outcome validation of rare events, biases, confounding, data extraction from electronic health records, and primary source verification as relevant to pediatrics and OB/GYN.
Prerequisite: Biostatistics, Epidemiology Methods, and permission of the instructor

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: Letter Grade
Written and oral presentation of research designs, protocols, papers, and critical appraisals with discussion and critical review of such topics.

PHA 6937 Topics in Pharmaceutical Administration 2 Credits
Grading Scheme: Letter Grade
Analysis of special topics and recent developments in pharmaceutical administration, including innovations in the distribution of drugs and health-care services.

PHA 6938 Research Seminar 1 Credit, Max 3 Credits
Grading Scheme: Letter Grade
Seminar required of graduate students in the College of Pharmacy.

PHA 6940 Supervised Teaching 1-5 Credits, Max 5 Credits
Grading Scheme: S/U
Supervised Teaching

PHA 6971 Research for Master’s Thesis 1-15 Credits
Grading Scheme: S/U
Research for Master’s Thesis
PHA 7807 Advanced Pharmacoepidemiology 3 Credits  
Grading Scheme: Letter Grade  
Structured as an interactive discussion of selected readings based on topics in contemporary pharmacoepidemiology and the application of advanced pharmacoepidemiology techniques.  
Prerequisite: STA 6166 and STA 6167 and PHA 6717 and PHA 6805 and PHA 6268, or equivalents.

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